

AGREEMENT

THIS AGREEMENT is made and entered into this 11th day of December, 2018, by and between the COUNTY OF FRESNO, a Political Subdivision of the State of California, hereinafter referred to as "COUNTY", and DNA DIAGNOSTICS CENTER, INC., an Ohio corporation, whose address is One DDC Way, Fairfield, OH 45014, hereinafter referred to as "CONTRACTOR".

WITNESSETH:

WHEREAS, COUNTY's Department of Child Support Services is required to provide a program for the enforcement of support and determination of paternity pursuant to the Uniform Act of Blood Tests to Determining Paternity;

WHEREAS, COUNTY's Department of Social Services has a need for a minimal amount of paternity testing services for program purposes; and

WHEREAS, the COUNTY issued Request for Quotation (RFQ) No. 18-085 and Addendums Nos. 1 One (1) and Two (2) for DNA and paternity testing services and CONTRACTOR was the successful bidder;

NOW, THEREFORE, in consideration of the mutual covenants, terms and conditions herein contained, the parties hereto agree as follows:

1. OBLIGATIONS OF THE CONTRACTOR

A. CONTRACTOR shall perform for each case DNA testing following the most current standards of the AABB (formerly the American Association of Blood Banks), in accordance with the RFQ. These tests shall provide exclusions at multiple loci or if not excluded, a cumulative paternity index of at least 100 (probably of paternity > 99% with a 0.5 prior probability).

B. CONTRACTOR shall provide to COUNTY written reports and interpretation of test results, including the probability of paternity and the prior probability factor used in calculating the result, in accordance with the RFQ.

C. CONTRACTOR shall testify at depositions and/or trials, if required by COUNTY.

D. CONTRACTOR shall provide COUNTY staff with unlimited telephone access and face-to-face consultations from 0800 to 1700 PST each working day, excluding holidays.

1 E. CONTRACTOR shall provide all supplies necessary for the collection and
2 preservation of specimens along with photographic and thumb print chain of custody documentation.

3 F. CONTRACTOR shall ensure parental or guardian consent is received prior to
4 testing in cases involving minor mothers or alleged minor fathers.

5 G. CONTRACTOR shall retain specimen collections for a minimum of seven (7)
6 years or longer if specifically requested by COUNTY.

7 H. CONTRACTOR will provide phlebotomy/specimen collection services using
8 CONTRACTOR's employees based in Fresno, California. Specimens are to be drawn every Tuesday
9 from 0800 to 1700 PST and every other Thursday from 0800 to 1130 PST in the blood draw room
10 located adjacent to Department 301 of the B.F. Sisk Courthouse, Fresno County Superior Court, as well
11 as on other days or at other locations deemed necessary by COUNTY. Specimens will be transported
12 or shipped by CONTRACTOR to CONTRACTOR's testing facilities the same day. CONTRACTOR will
13 test from buccal swab specimens, and post mortem specimens at the COUNTY's request. In the case
14 of post mortem specimens, CONTRACTOR shall respond to COUNTY's request for collection of a
15 sample within twenty-four (24) hours. In no event shall specimens be drawn at any Fresno County jail
16 facility, COUNTY's office building located at 2135 Fresno Street in Fresno, California, or at the Fresno
17 County Superior Court's criminal division located at 1100 Van Ness Avenue in Fresno, California.

18 I. CONTRACTOR will remove all hazardous waste at the conclusion of drawing
19 specimens and dispose of it by methods that are in full compliance with all applicable regulations and
20 laws.

21 J. CONTRACTOR's maximum turnaround time may not exceed four weeks from
22 drawing to issuance of report.

23 K. CONTRACTOR shall submit to COUNTY's Department of Child Support Services
24 and Department of Social Services a monthly statement listing the names of the persons tested and the
25 tests and services performed for each person.

26 L. Subject to Section 10 "CONFIDENTIALITY" of this Agreement, the use or
27 disclosure of information concerning persons tested shall be strictly limited to COUNTY and its agents or
28 other persons designated by COUNTY, persons possessing a valid subpoena requiring disclosure,

1 courts, law enforcement officials and other public officials for purposes directly connected with the
2 administration of the State Statutory Plan (Welfare and Institutions Code § 10850) for establishing
3 paternity and enforcing child support, including identifying and locating putative or deserting parents;
4 establishing paternity; enforcing support obligations; investigating welfare fraud; and any investigation,
5 prosecution or criminal or civil proceeding, conducted in connection with the administration of the State
6 Plan. No information shall be disclosed to any legislative body or committee thereof which identifies any
7 person tested or recipient of public assistance by name or address.

8 M. CONTRACTOR shall maintain an organizational structure and sufficient staff to
9 administer and supervise all of the functions for which they are responsible for as described in the RFQ.

10 2. TERM

11 The term of this Agreement shall be for a period of three (3) years, commencing on January 1st,
12 2019 through and including December 31st, 2021. This Agreement may be extended for two (2) additional
13 consecutive twelve (12) month periods upon written approval of both parties no later than thirty (30) days
14 prior to the first day of the next twelve (12) month extension period. The Director of the Department of Child
15 Support Services or his or her designee is authorized to execute such written approval on behalf of
16 COUNTY based on CONTRACTOR'S satisfactory performance.

17 3. TERMINATION

18 A. Non-Allocation of Funds - The terms of this Agreement, and the services to
19 be provided hereunder, are contingent on the approval of funds by the appropriating government
20 agency. Should sufficient funds not be allocated, the services provided may be modified, or this
21 Agreement terminated, at any time by giving the CONTRACTOR thirty (30) days advance written
22 notice.

23 B. Breach of Contract - The COUNTY may immediately suspend or terminate this
24 Agreement in whole or in part, where in the determination of the COUNTY there is:

- 25 1) An illegal or improper use of funds;
- 26 2) A failure to comply with any term of this Agreement;
- 27 3) A substantially incorrect or incomplete report submitted to the COUNTY;
- 28 4) Improperly performed service.

1 In no event shall any payment by the COUNTY constitute a waiver by the COUNTY of any breach
2 of this Agreement or any default which may then exist on the part of the CONTRACTOR. Neither shall such
3 payment impair or prejudice any remedy available to the COUNTY with respect to the breach or default.
4 The COUNTY shall have the right to demand of the CONTRACTOR the repayment to the COUNTY of any
5 funds disbursed to the CONTRACTOR under this Agreement, which in the judgment of the COUNTY were
6 not expended in accordance with the terms of this Agreement. The CONTRACTOR shall promptly refund
7 any such funds upon demand.

8 C. Without Cause - Under circumstances other than those set forth above, this
9 Agreement may be terminated by COUNTY upon the giving of thirty (30) days advance written notice of an
10 intention to terminate to CONTRACTOR.

11 4. COMPENSATION/INVOICING: COUNTY agrees to pay CONTRACTOR and
12 CONTRACTOR agrees to receive compensation as follows:

13	DNA Testing with buccal swabs	\$31.25 per person
14	DNA Testing with blood samples	\$31.25 per person
15	Additional testing required to reach a paternity index of 100	\$0 per person
16	Consultation with other laboratories to confirm unusual or uncertain results	\$0 per person
17	Drawing and identification fee (Fresno County Area)	\$0 per person
18	Drawing and identification fee (outside Fresno County Area)	\$0 per person
19	Expert Witness Fee (Court or deposition time)	\$0 per person
20	Retesting requested by laboratory	\$0 per person

21 CONTRACTOR shall submit monthly invoices to the County of Fresno Department of Child Support
22 Services, P.O. Box 12946, Fresno, CA 93779-2946, or Department of Social Services, 2135 Fresno Street,
23 Suite 100, Fresno, CA 93721, as applicable.

24 In no event shall services performed under this Agreement be in excess of Three Hundred
25 Thousand Dollars and No/100s (\$300,000.00) during the term of this Agreement, including the two (2) one-
26 year renewal periods. It is understood that all expenses incidental to CONTRACTOR'S performance of
27 services under this Agreement shall be borne by CONTRACTOR. COUNTY will pay CONTRACTOR after
28 a minimum of forty-five (45) days from date of receipt of invoice by the COUNTY.

1 5. INDEPENDENT CONTRACTOR: In performance of the work, duties and obligations
2 assumed by CONTRACTOR under this Agreement, it is mutually understood and agreed that
3 CONTRACTOR, including any and all of the CONTRACTOR'S officers, agents, and employees will at all
4 times be acting and performing as an independent contractor, and shall act in an independent capacity and
5 not as an officer, agent, servant, employee, joint venturer, partner, or associate of the COUNTY.
6 Furthermore, COUNTY shall have no right to control or supervise or direct the manner or method by which
7 CONTRACTOR shall perform its work and function. However, COUNTY shall retain the right to administer
8 this Agreement so as to verify that CONTRACTOR is performing its obligations in accordance with the
9 terms and conditions thereof.

10 CONTRACTOR and COUNTY shall comply with all applicable provisions of law and the rules and
11 regulations, if any, of governmental authorities having jurisdiction over matters the subject thereof.

12 Because of its status as an independent contractor, CONTRACTOR shall have absolutely no right
13 to employment rights and benefits available to COUNTY employees. CONTRACTOR shall be solely liable
14 and responsible for providing to, or on behalf of, its employees all legally-required employee benefits. In
15 addition, CONTRACTOR shall be solely responsible and save COUNTY harmless from all matters relating
16 to payment of CONTRACTOR'S employees, including compliance with Social Security withholding and all
17 other regulations governing such matters. It is acknowledged that during the term of this Agreement,
18 CONTRACTOR may be providing services to others unrelated to the COUNTY or to this Agreement.

19 6. MODIFICATION: Any matters of this Agreement may be modified from time to time by the
20 written consent of all the parties without, in any way, affecting the remainder.

21 7. NON-ASSIGNMENT: Neither party shall assign, transfer or sub-contract this Agreement
22 nor their rights or duties under this Agreement without the prior written consent of the other party.

23 8. HOLD HARMLESS: CONTRACTOR agrees to indemnify, save, hold harmless, and at
24 COUNTY'S request, defend the COUNTY, its officers, agents, and employees from any and all costs and
25 expenses (including attorney's fees and costs), damages, liabilities, claims, and losses occurring or
26 resulting to COUNTY in connection with the performance, or failure to perform, by CONTRACTOR, its
27 officers, agents, or employees under this Agreement, and from any and all costs and expenses (including
28 attorney's fees and costs), damages, liabilities, claims, and losses occurring or resulting to any person, firm,

or corporation who may be injured or damaged by the performance, or failure to perform, of CONTRACTOR, its officers, agents, or employees under this Agreement.

9. INSURANCE

Without limiting the COUNTY's right to obtain indemnification from CONTRACTOR or any third parties, CONTRACTOR, at its sole expense, shall maintain in full force and effect, the following insurance policies or a program of self-insurance, including but not limited to, an insurance pooling arrangement or Joint Powers Agreement (JPA) throughout the term of the Agreement:

A. Commercial General Liability

Commercial General Liability Insurance with limits of not less than Two Million Dollars (\$2,000,000.00) per occurrence and an annual aggregate of Four Million Dollars (\$4,000,000.00). This policy shall be issued on a per occurrence basis. COUNTY may require specific coverages including completed operations, products liability, contractual liability, Explosion-Collapse-Underground, fire legal liability or any other liability insurance deemed necessary because of the nature of this contract.

B. Automobile Liability

Comprehensive Automobile Liability Insurance with limits of not less than One Million Dollars (\$1,000,000.00) per accident for bodily injury and for property damages. Coverage should include any auto used in connection with this Agreement.

C. Professional Liability

If CONTRACTOR employs licensed professional staff, (e.g., Ph.D., R.N., L.C.S.W., M.F.C.C.) in providing services, Professional Liability Insurance with limits of not less than One Million Dollars (\$1,000,000.00) per occurrence, Three Million Dollars (\$3,000,000.00) annual aggregate.

D. Worker's Compensation

A policy of Worker's Compensation insurance as may be required by the California Labor Code.

E. Technology Professional Liability (Errors and Omissions)

Technology Professional Liability (Errors and Omissions) Insurance appropriate to the CONTRACTOR's profession, with limits not less than \$2,000,000 per occurrence or claim, \$2,000,000 aggregate. Coverage shall be sufficiently broad to respond to the duties and obligations as is undertaken

1 by CONTRACTOR in this agreement and shall include, but not be limited to, claims involving infringement
2 of intellectual property, including but not limited to infringement of copyright, trademark, trade dress,
3 invasion of privacy violations, information theft, damage to or destruction of electronic information, release
4 of private information, alteration of electronic information, extortion and network security. The policy shall
5 provide coverage for breach response costs as well as regulatory fines and penalties as well as credit
6 monitoring expenses with limits sufficient to respond to these obligations.

7 F. Cyber Liability

8 Cyber Liability Insurance, with limits not less than \$2,000,000 per occurrence or claim, \$2,000,000
9 aggregate. Coverage shall be sufficiently broad to respond to the duties and obligations as is undertaken
10 by CONTRACTOR in this agreement and shall include, but not be limited to, claims involving infringement
11 of intellectual property, including but not limited to infringement of copyright, trademark, trade dress,
12 invasion of privacy violations, information theft, damage to or destruction of electronic information, release
13 of private information, alteration of electronic information, extortion and network security. The policy shall
14 provide coverage for breach response costs as well as regulatory fines and penalties as well as credit
15 monitoring expenses with limits sufficient to respond to these obligations.

16 Additional Requirements Relating to Insurance

17 CONTRACTOR shall obtain endorsements to the Commercial General Liability insurance naming
18 the County of Fresno, its officers, agents, and employees, individually and collectively, as additional
19 insured, but only insofar as the operations under this Agreement are concerned. Such coverage for
20 additional insured shall apply as primary insurance and any other insurance, or self-insurance, maintained
21 by COUNTY, its officers, agents and employees shall be excess only and not contributing with insurance
22 provided under CONTRACTOR's policies herein. This insurance shall not be cancelled or changed without
23 a minimum of thirty (30) days advance written notice given to COUNTY.

24 CONTRACTOR hereby waives its right to recover from COUNTY, its officers, agents, and
25 employees any amounts paid by the policy of worker's compensation insurance required by this
26 Agreement. CONTRACTOR is solely responsible to obtain any endorsement to such policy that may be
27 necessary to accomplish such waiver of subrogation, but CONTRACTOR's waiver of subrogation under
28 this paragraph is effective whether or not CONTRACTOR obtains such an endorsement.

1 Within Thirty (30) days from the date CONTRACTOR signs and executes this Agreement,
2 CONTRACTOR shall provide certificates of insurance and endorsement as stated above for all of the
3 foregoing policies, as required herein, to the County of Fresno, (Name and Address of the official who will
4 administer this contract), stating that such insurance coverage have been obtained and are in full force; that
5 the County of Fresno, its officers, agents and employees will not be responsible for any premiums on the
6 policies; that such Commercial General Liability insurance names the County of Fresno, its officers, agents
7 and employees, individually and collectively, as additional insured, but only insofar as the operations under
8 this Agreement are concerned; that such coverage for additional insured shall apply as primary insurance
9 and any other insurance, or self-insurance, maintained by COUNTY, its officers, agents and employees,
10 shall be excess only and not contributing with insurance provided under CONTRACTOR's policies herein;
11 and that this insurance shall not be cancelled or changed without a minimum of thirty (30) days advance,
12 written notice given to COUNTY.

13 In the event CONTRACTOR fails to keep in effect at all times insurance coverage as herein
14 provided, the COUNTY may, in addition to other remedies it may have, suspend or terminate this
15 Agreement upon the occurrence of such event.

16 All policies shall be issued by admitted insurers licensed to do business in the State of California,
17 and such insurance shall be purchased from companies possessing a current A.M. Best, Inc. rating of A
18 FSC VII or better.

19 10. CONFIDENTIALITY

20 A. The parties of this Agreement shall be in strict conformance with all applicable Federal
21 and State of California laws and regulations, including but not limited to Sections 5328, 10850, and 14100.2
22 *et seq.* of the Welfare and Institutions Code, Sections 2.1 and 431.300 *et seq.* of Title 42, Code of Federal
23 Regulations (CFR), Section 56 *et seq.* of the California Civil Code, Sections 11977 and 11812 of Title 22 of
24 the California Code of Regulations, and the Health Insurance Portability and Accountability Act (HIPAA),
25 including but not limited to Section 1320 D *et seq.* of Title 42, United States Code (USC) and its
26 implementing regulations, including, but not limited to Title 45, CFR, Sections 142, 160, 162, and 164. The
27 Health Information Technology for Economic and Clinical Health Act (HITECH) regarding the confidentiality
28 and security of patient information, and the Genetic Information Nondiscrimination Act (GINA) of 2008

1 regarding the confidentiality of genetic information.

2 Except as otherwise provided in this Agreement, CONTRACTOR, as a Business Associate
3 of COUNTY, may use or disclose Protected Health Information (PHI) to perform functions, activities or
4 services for or on behalf of COUNTY, as specified in this Agreement, provided that such use or disclosure
5 shall not violate the Health Insurance Portability and Accountability Act (HIPAA), USC 1320d *et seq.* The
6 uses and disclosures of PHI may not be more expansive than those applicable to COUNTY, as the
7 “Covered Entity” under the HIPAA Privacy Rule (45 CFR 164.500 *et seq.*), except as authorized for
8 management, administrative or legal responsibilities of the Business Associate.

9 B. CONTRACTOR, including its subcontractors and employees, shall protect, from
10 unauthorized access, use, or disclosure of names and other identifying information, including genetic
11 information, concerning persons receiving services pursuant to this Agreement, except where permitted in
12 order to carry out data aggregation purposes for health care operations [45 CFR Sections 164.504 (e)(2)(i),
13 164.504 (3)(2)(ii)(A), and 164.504 (e)(4)(i)]. This pertains to any and all persons receiving services
14 pursuant to a COUNTY funded program. This requirement applies to electronic PHI. CONTRACTOR shall
15 not use such identifying information or genetic information for any purpose other than carrying out
16 CONTRACTOR’s obligations under this Agreement.

17 C. CONTRACTOR, including its subcontractors and employees, shall not disclose any such
18 identifying information or genetic information to any person or entity, except as otherwise specifically
19 permitted by this Agreement, authorized by Subpart E of 45 CFR Part 164 or other law, required by the
20 Secretary, or authorized by the client/patient in writing. In using or disclosing PHI that is permitted by this
21 Agreement or authorized by law, CONTRACTOR shall make reasonable efforts to limit PHI to the minimum
22 necessary to accomplish intended purpose of use, disclosure or request.

23 D. For purpose of the above sections, identifying information shall include, but not be
24 limited to name, identifying number, symbol, or other identifying particular assigned to the individual, such
25 as finger or voice print, or photograph.

26 E. For purposes of the above sections, genetic information shall include genetic tests of
27 family members of an individual, manifestation of disease or disorder of family members of an individual, or
28 any request for or receipt of, genetic services by individual or family members. Family member means a

1 dependent or any person who is first, second, third, or fourth degree relative.

2 F. CONTRACTOR shall provide access, at the request of COUNTY, and in the time and
3 manner designated by COUNTY, to PHI in a designated record set (as defined in 45 CFR Section
4 164.501), to an individual or to COUNTY in order to meet the requirements of 45 CFR Section 164.524
5 regarding access by individuals to their PHI. With respect to individual requests, access shall be provided
6 within thirty (30) days from request. Access may be extended if CONTRACTOR cannot provide access
7 and provides individual with the reasons for the delay and the date when access may be granted. PHI shall
8 be provided in the form and format requested by the individual or COUNTY.

9 CONTRACTOR shall make any amendment(s) to PHI in a designated record set at the
10 request of COUNTY or individual, and in the time and manner designated by COUNTY in accordance with
11 45 CFR Section 164.526.

12 CONTRACTOR shall provide to COUNTY or to an individual, in a time and manner
13 designated by COUNTY, information collected in accordance with 45 CFR Section 164.528, to permit
14 COUNTY to respond to a request by the individual for an accounting of disclosures of PHI in accordance
15 with 45 CFR Section 164.528.

16 CONTRACTOR shall report to COUNTY, in writing, any knowledge or reasonable belief that
17 there has been unauthorized access, viewing, use, disclosure, security incident, or breach of unsecure PHI
18 not permitted by this Agreement of which it becomes aware, immediately and without reasonable delay and
19 in no case later than two (2) business days of discovery. Immediate notification shall be made to
20 COUNTY's Information Security Officer and Privacy Officer and COUNTY's DPH HIPAA Representative,
21 within two (2) business days of discovery. The notification shall include, to the extent possible, the
22 identification of each individual whose unsecured PHI has been, or is reasonably believed to have been,
23 accessed, acquired, used, disclosed, or breached. CONTRACTOR shall take prompt corrective action to
24 cure any deficiencies and any action pertaining to such unauthorized disclosure required by applicable
25 Federal and State Laws and regulations. CONTRACTOR shall investigate such breach and is responsible
26 for all notifications required by law and regulation or deemed necessary by COUNTY and shall provide a
27 written report of the investigation and reporting required to COUNTY's Information Security Officer and
28 Privacy Officer and COUNTY's DPH HIPAA Representative. This written investigation and description of

any reporting necessary shall be postmarked within the thirty (30) working days of the discovery of the breach to the addresses below:

County of Fresno
Dept. of Public Health
HIPAA Representative
(559) 600-3200
P.O. Box 11867
Fresno, CA 93775

County of Fresno
Dept. of Public Health
Privacy Officer
(559) 600-3200
P.O. Box 11867
Fresno, CA 93775

County of Fresno
Internal Services Dept.
Information Security Officer
(559) 600-5800
333 W. Pontiac Way
Clovis, CA 93612

H. CONTRACTOR shall make its internal practices, books, and records relating to the use and disclosure of PHI received from COUNTY, or created or received by the CONTRACTOR on behalf of COUNTY, in compliance with HIPAA's Privacy Rule, including, but not limited to the requirements set forth in Title 45, CRF, Sections 160 and 164. CONTRACTOR shall make its internal practices, books, and records relating to the use and disclosure of PHI received from COUNTY, or created or received by the CONTRACTOR on behalf of COUNTY, available to the United State Department of Health and Human Services (Secretary) upon demand.

CONTRACTOR shall cooperate with the compliance and investigation reviews conducted by the Secretary. PHI access to the Secretary must be provided during the CONTRACTOR's normal business hours, however, upon exigent circumstances access at any time must be granted. Upon the Secretary's compliance or investigation review, if PHI is unavailable to CONTRACTOR and in possession of a Subcontractor, it must certify efforts to obtain the information to the Secretary.

I. Safeguards

CONTRACTOR shall implement administrative, physical, and technical safeguards as required by the HIPAA Security Rule, Subpart C of 45 CFR 164, that reasonably and appropriately protect the confidentiality, integrity, and availability of PHI, including electronic PHI, that it creates, receives, maintains or transmits on behalf of COUNTY and to prevent unauthorized access, viewing, use, disclosure, or breach of PHI other than as provided for by this Agreement. CONTRACTOR shall conduct an accurate and thorough assessment of the potential risks and vulnerabilities to the confidential, integrity and availability of electronic PHI. CONTRACTOR shall develop and maintain a written information privacy and security program that includes administrative, technical and physical safeguards appropriate to the size and complexity of CONTRACTOR's operations and the nature and scope of its activities. Upon COUNTY's

request, CONTRACTOR shall provide COUNTY with information concerning such safeguards.

CONTRACTOR shall implement strong access controls and other security safeguards and precautions in order to restrict logical and physical access to confidential, personal (e.g., PHI) or sensitive data to authorized users only. Said safeguards and precautions shall include the following administrative and technical password controls for all systems used to process or store confidential, personal, or sensitive data.

1. Passwords must not be:

a. Shared or written down where they are accessible or recognizable by anyone else; such as taped to computer screens, stored under keyboards, or visible in a work area;

b. A dictionary word; or

c. Stored in clear text

2. Passwords must be:

a. Eight (8) characters or more in length;

b. Changed every ninety (90) days;

c. Changed immediately if revealed or compromised; and

d. Composed of characters from at least three (3) of the following four (4) groups from the standard keyboard:

1) Upper case letters (A-Z);

2) Lowercase letters (a-z);

3) Arabic numerals (0 through 9); and

4) Non-alphanumeric characters (punctuation symbols).

CONTRACTOR shall implement the following security controls on each workstation or portable computing device (e.g., laptop computer) containing confidential, personal, or sensitive data:

1. Network-based firewall and/or personal firewall;

2. Continuously updated anti-virus software; and

3. Patch management process including installation of all operating system/software vendor security patches.

CONTRACTOR shall utilize a commercial encryption solution that has received FIPS 140-2

validation to encrypt all confidential, personal, or sensitive data stored on portable electronic media (including, but not limited to, compact disks and thumb drives) and on portable computing devices (including, but not limited to, laptop and notebook computers).

CONTRACTOR shall not transmit confidential, personal, or sensitive data via e-mail or other internet transport protocol unless the data is encrypted by a solution that has been validated by the National Institute of Standards and Technology (NIST) as conforming to the Advanced Encryption Standard (AES) Algorithm. CONTRACTOR must apply appropriate sanctions against its employees who fail to comply with these safeguards. CONTRACTOR must adopt procedures for terminating access to PHI when employment of employee ends.

J. Mitigation of Harmful Effects

CONTRACTOR shall mitigate, to the extent practicable, any harmful effect that is suspected or known to CONTRACTOR of an unauthorized access, viewing, use, disclosure, or breach of PHI by CONTRACTOR or its subcontractors in violation of the requirements of these provisions. CONTRACTOR must document suspected or known harmful effects and the outcome.

K. CONTRACTOR's Subcontractors

CONTRACTOR shall ensure that any of its contractors, including subcontractors, if applicable, to whom CONTRACTOR provides PHI received from or created or received by CONTRACTOR on behalf of COUNTY, agree to the same restrictions, safeguards, and conditions that apply to CONTRACTOR with respect to such PHI and to incorporate, when applicable, the relevant provisions of these provisions into each subcontract or sub-award to such agents or subcontractors.

L. Employee Training and Discipline

CONTRACTOR shall train and use reasonable measures to ensure compliance with the requirements of these provisions by employees who assist in the performance of functions or activities on behalf of COUNTY under this Agreement and use or disclose PHI and discipline such employees who intentionally violate any provisions of these provisions, including termination of employment.

M. Termination for Cause

Upon COUNTY's knowledge of a material breach of these provisions by CONTRACTOR, COUNTY shall either:

1 1. Provide an opportunity for CONTRACTOR to cure the breach or end the violation and
2 terminate this Agreement if CONTRACTOR does not cure the breach or end the violation within the time
3 specified by COUNTY; or

4 2. Immediately terminate this Agreement if CONTRACTOR has breached a material term of
5 these provisions and cure is not possible.

6 3. If neither cure nor termination is feasible, the COUNTY's Privacy Officer shall report the
7 violation to the Secretary of the U.S. Department of Health and Human Services.

8 N. Judicial or Administrative Proceedings

9 COUNTY may terminate this Agreement in accordance with the terms and conditions of this
10 Agreement as written hereinabove; if: (1) CONTRACTOR is found guilty in a criminal proceeding for a
11 violation of the HIPAA Privacy or Security Laws or the HITECH Act; or (2) a finding or stipulation that the
12 CONTRACTOR has violated a privacy or security standard or requirement of the HITECH Act, HIPAA or
13 other security or privacy laws in an administrative or civil proceeding in which the CONTRACTOR is a
14 party.

15 O. Effect of Termination

16 Upon termination or expiration of this Agreement for any reason, CONTRACTOR shall
17 return or destroy all PHI received from COUNTY (or created or received by CONTRACTOR on behalf of
18 COUNTY) that CONTRACTOR still maintains in any form, and shall retain no copies of such PHI. If return
19 or destruction of PHI is not feasible, it shall continue to extend the protections of these provisions to such
20 information, and limit further use of such PHI to those purposes that make the return or destruction of such
21 PHI infeasible. This provision shall apply to PHI that is in the possession of subcontractors or agents, if
22 applicable, of CONTRACTOR. If CONTRACTOR destroys the PHI data, a certification of date and time of
23 destruction shall be provided to the COUNTY by CONTRACTOR. Any DNA testing results in
24 CONTRACTOR's possession but not yet conveyed to the COUNTY upon termination of this Agreement for
25 any reason shall be immediately transferred to the COUNTY.

26 P. Disclaimer

27 COUNTY makes no warranty or representation that compliance by CONTRACTOR with
28 these provisions, the HITECH Act, HIPAA or the HIPAA regulations will be adequate or satisfactory for

1 CONTRACTOR's own purposes or that any information in CONTRACTOR's possession or control, or
2 transmitted or received by CONTRACTOR, is or will be secure from unauthorized access, viewing, use,
3 disclosure, or breach. CONTRACTOR is solely responsible for all decisions made by CONTRACTOR
4 regarding the safeguarding of PHI.

5 Q. Amendment

6 The parties acknowledge that Federal and State laws relating to electronic data security and
7 privacy are rapidly evolving and that amendment of these provisions may be required to provide for
8 procedures to ensure compliance with such developments. The parties specifically agree to take such
9 action as is necessary to amend this agreement in order to implement the standards and requirements of
10 HIPAA, the HIPAA regulations, the HITECH Act and other applicable laws relating to the security or privacy
11 of PHI. COUNTY may terminate this Agreement upon thirty (30) days written notice in the event that
12 CONTRACTOR does not enter into an amendment providing assurances regarding the safeguarding of
13 PHI that COUNTY in its sole discretion, deems sufficient to satisfy the standards and requirements of
14 HIPAA, the HIPAA regulations and the HITECH Act.

15 R. No Third-Party Beneficiaries

16 Nothing express or implied in the terms and conditions of these provisions is intended to
17 confer, nor shall anything herein confer, upon any person other than COUNTY or CONTRACTOR and their
18 respective successors or assignees, any rights, remedies, obligations or liabilities whatsoever.

19 S. Interpretation

20 The terms and conditions in these provisions shall be interpreted as broadly as necessary to
21 implement and comply with HIPAA, the HIPAA regulations and applicable State laws. The parties agree
22 that any ambiguity in the terms and conditions of these provisions shall be resolved in favor of a meaning
23 that complies and is consistent with HIPAA and the HIPAA regulations.

24 T. Regulatory References

25 A reference in the terms and conditions of these provisions to a section in the HIPAA
26 regulations means the section as in effect or as amended.

27 U. Survival

28 The respective rights and obligations of CONTRACTOR as stated in this Section shall

1 survive the termination or expiration of this Agreement.

2 V. No Waiver of Obligations

3 No change, waiver or discharge of any liability or obligation hereunder on any one or more
4 occasions shall be deemed a waiver of performance of any continuing or other obligations, or shall prohibit
5 enforcement of any obligation on any other occasion.

6 11. AUDITS AND INSPECTIONS: The CONTRACTOR shall at any time during business
7 hours, and as often as the COUNTY may deem necessary, make available to the COUNTY for examination
8 all of its records and data with respect to the matters covered by this Agreement. The CONTRACTOR
9 shall, upon request by the COUNTY, permit the COUNTY to audit and inspect all of such records and data
10 necessary to ensure CONTRACTOR'S compliance with the terms of this Agreement.

11 If this Agreement exceeds ten thousand dollars (\$10,000.00), CONTRACTOR shall be subject to
12 the examination and audit of the Auditor General for a period of three (3) years after final payment under
13 contract (Government Code Section 8546.7).

14 12. NOTICES: The persons and their addresses having authority to give and receive notices
15 under this Agreement include the following:

16 COUNTY

17 COUNTY OF FRESNO
18 Child Support Services, Director
2220 Tulare Street, Suite 1900
Fresno, CA 93721

CONTRACTOR

DNA Diagnostics Center, Inc.
One DDC Way
Fairfield, OH 45014

19 All notices between the COUNTY and CONTRACTOR provided for or permitted under this
20 Agreement must be in writing and delivered either by personal service, by first-class United States mail, by
21 an overnight commercial courier service, or by telephonic facsimile transmission. A notice delivered by
22 personal service is effective upon service to the recipient. A notice delivered by first-class United States
23 mail is effective three COUNTY business days after deposit in the United States mail, postage prepaid,
24 addressed to the recipient. A notice delivered by an overnight commercial courier service is effective one
25 COUNTY business day after deposit with the overnight commercial courier service, delivery fees prepaid,
26 with delivery instructions given for next day delivery, addressed to the recipient. A notice delivered by
27 telephonic facsimile is effective when transmission to the recipient is completed (but, if such transmission is
28 completed outside of COUNTY business hours, then such delivery shall be deemed to be effective at the

1 next beginning of a COUNTY business day), provided that the sender maintains a machine record of the
2 completed transmission. For all claims arising out of or related to this Agreement, nothing in this section
3 establishes, waives, or modifies any claims presentation requirements or procedures provided by law,
4 including but not limited to the Government Claims Act (Division 3.6 of Title 1 of the Government Code,
5 beginning with section 810).

6 13. GOVERNING LAW: Venue for any action arising out of or related to this Agreement shall
7 only be in Fresno County, California.

8 The rights and obligations of the parties and all interpretation and performance of this Agreement
9 shall be governed in all respects by the laws of the State of California.

10 14. DISCLOSURE OF SELF-DEALING TRANSACTIONS

11 This provision is only applicable if the CONTRACTOR is operating as a corporation (a for-profit
12 or non-profit corporation) or if during the term of the agreement, the CONTRACTOR changes its status
13 to operate as a corporation.

14 Members of the CONTRACTOR's Board of Directors shall disclose any self-dealing transactions
15 that they are a party to while CONTRACTOR is providing goods or performing services under this
16 agreement. A self-dealing transaction shall mean a transaction to which the CONTRACTOR is a party
17 and in which one or more of its directors has a material financial interest. Members of the Board of
18 Directors shall disclose any self-dealing transactions that they are a party to by completing and signing a
19 Self-Dealing Transaction Disclosure Form, attached hereto as Exhibit A and incorporated herein by
20 reference, and submitting it to the COUNTY prior to commencing with the self-dealing transaction or
21 immediately thereafter.

22 15. ENTIRE AGREEMENT: This Agreement constitutes the entire agreement between the
23 CONTRACTOR and COUNTY with respect to the subject matter hereof and supersedes all previous
24 Agreement negotiations, proposals, commitments, writings, advertisements, publications, and
25 understanding of any nature whatsoever unless expressly included in this Agreement. *In the event of any*
26 *inconsistency in interpreting the documents which constitute this Agreement, the inconsistency shall be*
27 *resolved by giving precedence in the following order of priority: (1) the text of this Agreement (excluding*
28 *Exhibit "B", the COUNTY'S Request for Quotation/Proposal No. 18-058 and the CONTRACTOR'S*

*Quote/Proposal in response thereto); (2) the COUNTY'S Request for Quotation/Proposal No. 18-058; and
(3) the CONTRACTOR'S quotation/proposal made in response to COUNTY'S Request for
Quotation/Proposal No. 18-058.*

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1 IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year
2 first hereinabove written.

3
4 **CONTRACTOR**

5 Kathy Leis
6 (Authorized Signature)

7 Kathy Leis, Vice President, Operations
8 Print Name & Title

9 One DDC Way

10 Fairfield, OH 45014
11 Mailing Address

COUNTY OF FRESNO

12 Sal Quintero
13 Sal Quintero, Chairperson of the Board of
14 Supervisors of the County of Fresno

ATTEST:

15 Bernice E. Seidel
16 Clerk of the Board of Supervisors
17 County of Fresno, State of California

18 By: Susan Bishop
19 Deputy

20 **FOR ACCOUNTING USE ONLY:**

21 Department of Child Support
22 Services

23 ORG No.: 5110
24 Account No.: 7295
25 Requisition No.: 5111800064

26 Department of Social Services

27 ORG No.: 56107001
28 Account No.: 7870
Requisition No.: 5611900622

EXHIBIT A - SELF-DEALING TRANSACTION DISCLOSURE FORM

In order to conduct business with the County of Fresno (hereinafter referred to as "County"), members of a contractor's board of directors (hereinafter referred to as "County Contractor"), must disclose any self-dealing transactions that they are a party to while providing goods, performing services, or both for the County. A self-dealing transaction is defined below:

"A self-dealing transaction means a transaction to which the corporation is a party and in which one or more of its directors has a material financial interest"

The definition above will be utilized for purposes of completing this disclosure form.

INSTRUCTIONS

- (1) Enter board member's name, job title (if applicable), and date this disclosure is being made.
- (2) Enter the board member's company/agency name and address.
- (3) Describe in detail the nature of the self-dealing transaction that is being disclosed to the County. At a minimum, include a description of the following:
 - a. The name of the agency/company with which the corporation has the transaction; and
 - b. The nature of the material financial interest in the Corporation's transaction that the board member has.
- (4) Describe in detail why the self-dealing transaction is appropriate based on applicable provisions of the Corporations Code.

Form must be signed by the board member that is involved in the self-dealing transaction described in Sections (3) and (4).

Not Applicable. There are no members of DDC's Board of Directors that will need to disclose any self-dealing transactions.

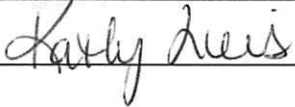
(1) Company Board Member Information:			
Name:		Date:	
Job Title:			
(2) Company/Agency Name and Address:			
DNA Diagnostics Center, Inc. One DDC Way Fairfield, OH 45014			
(3) Disclosure (Please describe the nature of the self-dealing transaction you are a party to):			
None			
(4) Explain why this self-dealing transaction is consistent with the requirements of Corporations Code 5233 (a):			
N/A			
(5) Authorized Signature			
Signature:		Date:	11-16-18

Exhibit B

COUNTY OF FRESNO



REQUEST FOR QUOTATION

NUMBER: 18-058

DNA - PATERNITY TESTING SERVICES

Issue Date: July 10, 2018

Closing Date: AUGUST 15, 2018 AT 2:00 P.M.

All Questions and Responses must be electronically submitted on the Bid Page on Public Purchase.

For assistance, contact Darren Howard at Phone (559) 600-7110.

BIDDER TO COMPLETE

Undersigned agrees to furnish the commodity or service stipulated in the attached response at the prices and terms stated in this RFQ.
Bid must be signed and dated by an authorized officer or employee.

Except as noted on individual items, the following will apply to all items in the Quotation Schedule:

- A cash discount of _____ % _____ days will apply. County does not accept terms less than 15 days.

COMPANY

ADDRESS

CITY

STATE

ZIP CODE

()

TELEPHONE NUMBER

()

FACSIMILE NUMBER

E-MAIL ADDRESS

SIGNATURE

PRINT NAME

TITLE

Purchasing Use: DH:st

ORG/Requisition: 5110 / 5111800064

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KEY DATES

RFQ Issue Date:	July 10, 2018
Vendor Conference:	July 24, 2018 at 10:00 AM County of Fresno - Purchasing 4525 E. Hamilton Avenue, 2 nd Floor Fresno, CA 93702
Written Questions for RFQ Due:	July 31, 2018 at 10:00 AM Questions must be submitted on the Bid Page at Public Purchase.
RFQ Closing Date:	August 15, 2018 at 2:00 P.M. Quotations must be electronically submitted on the Bid Page.

VENDOR CONFERENCE & SITE INSPECTION:

A vendor conference will be held in which the scope of the project and quotation requirements will be explained. Addenda will be prepared and distributed to all bidders only if necessary to clarify substantive items raised during the vendor conference.

Bidders are to contact Darren Howard at County of Fresno - Purchasing, (559) 600-7119, if they are planning to attend.

OVERVIEW

The County of Fresno on behalf of the Department of Child Support Services is seeking proposals from qualified vendors to provide Deoxyribonucleic Acid (DNA) Genetic Parentage Testing as outlined in Exhibit "A", California Family Code Section 7550-7558.

The County of Fresno Department of Child Support Services (DCSS) is required to maintain a program for the enforcement of support and determination of paternity. The County's goal is to employ a laboratory that can provide objective evidence to assist the Department of Child Support Services in resolving paternity disputes.

In addition, the Department of Social Services (DSS) will have a need for a minimal amount of paternity testing services for their respective programs. The determination of paternity in DSS assists in the provision of Child Welfare Services.

Each department listed will be invoiced separately, receive the test results, and other pertinent information. The Department of Child Support Services will require a detailed invoice with each of the child support case numbers listed with the dollar amount charged.

The test volume averages around one hundred samples per month. Currently, the testing is performed by DNA Diagnostics Center, using buccal swabs and the fee is \$29.25 per individual. The current agreement terminates on December 31, 2018.

BID INSTRUCTIONS

- Bidders must electronically submit bid package in pdf format, no later than the quotation closing date and time as stated on the front of this document, to the Bid Page on Public Purchase. The County will not be responsible for and will not accept late bids due to slow internet connection or incomplete transmissions.
- Bids received after the closing time will NOT be considered.
- All quotations shall remain firm for 180 days.
- Interpretation: Should any discrepancies or omissions be found in the bid specifications or doubt as to their meaning, the bidder shall notify the Buyer in writing at once. The County shall not be held responsible for verbal interpretations. Questions regarding the bid must be received by Purchasing prior to the date and time stated within this document. All addenda issued shall be in writing, duly issued by Purchasing and incorporated into the contract.
- ISSUING AGENT/AUTHORIZED CONTACT: This RFQ has been issued by County of Fresno, Purchasing. Purchasing shall be the vendor's sole point of contact with regard to the RFQ, its content, and all issues concerning it.

All communication regarding this RFQ shall be directed to an authorized representative of County Purchasing. The specific buyer managing this RFQ is identified on the cover page, along with his or her telephone number, and he or she should be the primary point of contact for discussions or information pertaining to the RFQ. Contact with any other County representative, including elected officials, for the purpose of discussing this RFQ, its content, or any other issue concerning it, is prohibited unless authorized by Purchasing. Violation of this clause, by the vendor having unauthorized contact (verbally or in writing) with such other County representatives, may constitute grounds for rejection by Purchasing of the vendor's quotation.

The above stated restriction on vendor contact with County representatives shall apply until the County has awarded a purchase order or contract to a vendor or vendors, except as follows. First, in the event that a vendor initiates a formal protest against the RFQ, such vendor may contact the appropriate individual, or individuals who are managing that protest as outlined in the County's established protest procedures. All such contact must be in accordance with the sequence set forth under the protest procedures. Second, in the event a public hearing is scheduled before the Board of Supervisors to hear testimony prior to its approval of a purchase order or contract, any vendor may address the Board.

- APPEALS: Appeals must be submitted in writing within seven (7) working days after notification of proposed recommendations for award. A "Notice of Award" is not an indication of County's acceptance of an offer made in response to this RFQ. Appeals shall be submitted to County of Fresno Purchasing, 4525 E. Hamilton Avenue 2nd Floor, Fresno, California 93702-4599 and in Word format to gcornuelle@FresnoCountyCA.gov. Appeals should address only areas regarding RFQ contradictions, procurement errors, quotation rating discrepancies, legality of procurement context, conflict of interest, and inappropriate or unfair competitive procurement grievance regarding the RFQ process.

Purchasing will provide a written response to the complainant within seven (7) working days unless the complainant is notified more time is required. If the appealing bidder is not satisfied with the decision of Purchasing, he/she shall have the right to appeal to the County Administrative Office (CAO) within seven (7) working days after Purchasing's notification; if the appealing bidder is not satisfied with CAO's decision, the final appeal is with the Board of Supervisors. Please contact Purchasing if the appeal will be going to the Board of Supervisors.

GENERAL REQUIREMENTS & CONDITIONS

LOCAL VENDOR PREFERENCE AND DISABLED VETERAN BUSINESS ENTERPRISE BID

PREFERENCE: The Local Vendor Preference and Disabled Veteran Business Enterprise Preference **do not** apply to this Request for Quotation.

DEFINITIONS: The terms Bidder, Proposer, Contractor and Vendor are all used interchangeably and refer to that person, partnership, corporation, organization, agency, etc. which is offering the quotation and is identified on page one of this Request For Quotation (RFQ).

INTERPRETATION OF RFQ: Vendors must make careful examination of the requirements, specifications and conditions expressed in the RFQ and fully inform themselves as to the quality and character of services required. If any person planning to submit a quotation finds discrepancies in or omissions from the RFQ or has any doubt as to the true meaning or interpretation, correction thereof may be requested in writing from Purchasing by July 31, 2018 at 10:00 AM, cut-off.

Questions must be submitted on the Bid Page at Public Purchase or contact Darren Howard at (559) 600-7110.

NOTE: Time constraints will prevent County from responding to questions submitted after the cut-off date.

Any change in the Request for Quotation will be made by written addendum issued by the County. The County will not be responsible for any other explanations or interpretations.

AWARD: Award will be made to the vendor(s) offering the services, products, prices, delivery, equipment and system deemed to be to the best advantage of the County. Past performance (County contracts within the past seven years) and references may factor into awarding of a contract. The County shall be the sole judge in making such determination. Award Notices are tentative: Acceptance of an offer made in response to this RFQ shall occur only upon execution of an agreement by both parties or issuance of a valid written Purchase Order by Fresno County Purchasing.

RIGHT TO REJECT BIDS: The County reserves the right to reject any and all bids and to waive informalities or irregularities in bids. Failure to respond to all questions or not to supply the requested information could result in rejection of your quotation.

CODES AND REGULATIONS: All work and material to conform to all applicable Federal, State, local and special district building codes, laws, ordinances, and regulations.

TAXES: The quoted amount must include all applicable taxes. If taxes are not specifically identified in the quotation it will be assumed that they are included in the total quoted.

SALES TAX: Fresno County pays California State Sales Tax in the amount of 7.975% regardless of vendor's place of doing business.

TAXES, PERMITS & FEES: The successful bidder shall pay for and include all federal, state and local taxes direct or indirect upon all materials; pay all fees for, and obtain all necessary permits and licenses, unless otherwise specified herein.

TAXES, CHARGES AND EXTRAS:

- A) **DO NOT** include Federal Excise Tax. County is exempt under Registration No. 94-73-03401-K.
- B) County is exempt from Federal Transportation Tax. Exemption certificate is not required where shipping papers show consignee as County of Fresno.
- C) Charges for transportation, containers, packing, etc. will not be paid unless specified in bid.

SPECIFICATIONS AND EQUALS: Brand names, where used, are a means of establishing quality and style. Bidders are invited to quote their equals. Alternate offers are to be supported by literature, which fully describes items that you are bidding.

No exceptions to or deviations from this specification will be considered unless each exception or deviation is specifically stated by the bidder, in the designated places. If no exceptions or deviations are shown, the bidder will be required to furnish items exactly as specified herein. The burden of proof of compliance with this specification is the responsibility of the bidder.

LITERATURE: Bidders shall submit literature, which fully describes items on which they are bidding, not later than the closing date of this bid. Any and all literature submitted must be stamped with bidders name and address.

MERCHANDISE RETURNABLE FOR FULL CREDIT: Bidder agrees to accept for full credit any merchandise sold by him on contract or award resulting from this bid, if returned in good condition by the County.

GUARANTEE AGAINST DEFECTS: All items are to carry a full guarantee against defects in materials and workmanship and guarantee against breakage and other malfunctions when performing work for which they are designed.

MINOR DEVIATIONS: The County reserves the right to negotiate minor deviations from the prescribed terms, conditions and requirements with the selected vendor.

BIDDERS' LIABILITIES: County of Fresno will not be held liable for any cost incurred by vendors in responding to the RFQ.

PRICE RESPONSIBILITY: The selected vendor will be required to assume full responsibility for all services and activities offered in the quotation, whether or not they are provided directly. Further, the County of Fresno will consider the selected vendor to be the sole point of contact with regard to contractual matters, including payment of any and all charges resulting from the contract. The contractor may not subcontract or transfer the contract, or any right or obligation arising out of the contract, without first having obtained the express written consent of the County.

PRICES: Bidder agrees that prices quoted are for the contract period, and in the event of a price decline such lower prices shall be extended to the County of Fresno. Prices shall be quoted F.O.B. destination.

CONFIDENTIALITY: Bidders shall not disclose information about the County's business or business practices and safeguard confidential data which vendor staff may have access to in the course of system implementation.

HIPAA: All services performed by vendor shall be in strict conformance with all applicable Federal, State of California and/or local laws and regulations relating to confidentiality, including but not limited to, California Civil Code, California Welfare and Institutions Code, Health and Safety Code, California Code of Regulations, Code of Federal Regulations.

Vendor shall submit to County's monitoring of said compliance.

Vendor may be a business associate of County, as that term is defined in the "Privacy Rule" enacted by the Health Insurance Portability and Accountability Act of 1996 (HIPAA). As a HIPAA Business Associate, vendor may use or disclose protected health information ("PHI") to perform functions, activities or services for or on behalf of County as specified by the County, provided that such use or disclosure shall not violate HIPAA and its implementing regulations. The uses and disclosures of PHI may not be more expansive than those applicable to County, as the "Covered Entity" under HIPAA's Privacy Rule, except as authorized for management, administrative or legal responsibilities of the Business Associate.

Vendor shall not use or further disclose PHI other than as permitted or required by the County, or as required by law without written notice to the County.

Vendor shall ensure that any agent, including any subcontractor, to which vendor provides PHI received from, or created or received by the vendor on behalf of County, shall comply with the same restrictions and conditions with respect to such information.

NEWS RELEASE: Vendors shall not issue any news releases or otherwise release information to any third party about this RFQ or the vendor's quotation without prior written approval from the County of Fresno.

BACKGROUND REVIEW: The County reserves the right to conduct a background inquiry of each proposer/bidder which may include collection of appropriate criminal history information, contractual and business associations and practices, employment histories and reputation in the business community. By submitting a quotation/bid to the County, the vendor consents to such an inquiry and agrees to make available to the County such books and records the County deems necessary to conduct the inquiry.

ADDENDA: In the event that it becomes necessary to revise any part of this RFQ, addenda will be provided to all agencies and organizations that receive the basic RFQ.

CONFLICT OF INTEREST: The County shall not contract with, and shall reject any bid or quotation submitted by the persons or entities specified below, unless the Board of Supervisors finds that special circumstances exist which justify the approval of such contract:

1. Employees of the County or public agencies for which the Board of Supervisors is the governing body.
2. Profit-making firms or businesses in which employees described in Subsection (1) serve as officers, principals, partners or major shareholders.
3. Persons who, within the immediately preceding twelve (12) months, came within the provisions of Subsection (1), and who were employees in positions of substantial responsibility in the area of service to be performed by the contract, or participated in any way in developing the contract or its service specifications.
4. Profit-making firms or businesses in which the former employees described in Subsection (3) serve as officers, principals, partners or major shareholders.
5. No County employee whose position in the County enables him to influence the selection of a contractor for this RFQ, or any competing RFQ, and no spouse or economic dependent of such employee, shall be employees in any capacity by a bidder, or have any other direct or indirect financial interest in the selection of a contractor.

INVOICING: All invoices are to be delivered in duplicate to the ordering department. Each invoice shall reference the purchase order or contract number. The contractor shall obtain the "invoice to" address when receiving the order.

PAYMENT: County will make partial payments for all purchases made under the contract/purchase order and accumulated during the month. Terms of payment will be net forty-five (45) days. County will consider the Bidder's Cash discount Offer, in lieu of the net forty-five (45) days payment terms.

CONTRACT TERM: It is County's intent to contract with the successful bidder for a term of three (3) years.

RENEWAL: Agreement may be renewed for a potential of two (2) one (1) year periods, based on the mutual written consent of all parties.

QUANTITIES: Quantities shown in the bid schedule are approximate and the County guarantees no minimum amount. The County reserves the right to increase or decrease quantities.

ORDERING: Orders will be placed as required by County of Fresno Department of Child Support Services and the Department of Social Services.

TERMINATION: The County reserves the right to terminate any resulting contract upon written notice.

INDEPENDENT CONTRACTOR: In performance of the work, duties, and obligations assumed by Contractor under any ensuing Agreement, it is mutually understood and agreed that CONTRACTOR, including any and all of Contractor's officers, agents, and employees will at all times be acting and performing as an independent contractor, and shall act in an independent capacity and not as an officer, agent, servant, employee, joint venturer, partner, or associate of the COUNTY. Furthermore, County shall

have no right to control or supervise or direct the manner or method by which Contractor shall perform its work and function. However, County shall retain the right to administer this Agreement so as to verify that Contractor is performing its obligations in accordance with the terms and conditions thereof. Contractor and County shall comply with all applicable provisions of law and the rules and regulations, if any, of governmental authorities having jurisdiction over matters the subject thereof.

Because of its status as an independent contractor, Contractor shall have absolutely no right to employment rights and benefits available to County employees. Contractor shall be solely liable and responsible for providing to, or on behalf of, its employees all legally-required employee benefits. In addition, Contractor shall be solely responsible and save County harmless from all matters relating to payment of Contractor's employees, including compliance with Social Security, withholding, and all other regulations governing such matters. It is acknowledged that during the term of the Agreement, Contractor may be providing services to others unrelated to the County or to the Agreement.

SELF-DEALING TRANSACTION DISCLOSURE: Contractor agrees that when operating as a corporation (a for-profit or non-profit corporation), or if during the term of the agreement the Contractor changes its status to operate as a corporation, members of the Contractor's Board of Directors shall disclose any self-dealing transactions that they are a party to while Contractor is providing goods or performing services under the agreement with the County. A self-dealing transaction shall mean a transaction to which the Contractor is a party and in which one or more of its directors has a material financial interest. Members of the Board of Directors shall disclose any self-dealing transactions that they are a party to by completing and signing a Fresno County Self-Dealing Transaction Disclosure Form and submitting it to the County prior to commencing with the self-dealing transaction or immediately thereafter.

HOLD HARMLESS CLAUSE: Contractor agrees to indemnify, save, hold harmless and at County's request, defend the County, its officers, agents and employees, from any and all costs and expenses (including attorney's fees and costs), damages, liabilities, claims and losses occurring or resulting to County in connection with the performance, or failure to perform, by Contractor, its officers, agents or employees under this Agreement and from any and all costs and expenses (including attorney's fees and costs), damages, liabilities, claims and losses occurring or resulting to any person, firm or corporation who may be injured or damaged by the performance, or failure to perform, of Contractor, its officers, agents or employees under this Agreement.

DISPUTE RESOLUTION: The ensuing contract shall be governed by the laws of the state of California. Any claim which cannot be amicably settled without court action will be litigated in the U.S. District Court for the Eastern District of California in Fresno, CA or in a state court for Fresno County.

DEFAULT: In case of default by the selected bidder, the County may procure the services from another source and may recover the loss occasioned thereby from any unpaid balance due the selected bidder, or by any other legal means available to the County.

Regardless of F.O.B. point, vendor agrees to bear all risks of loss, injury or destruction to goods and materials ordered herein which occur prior to delivery and such loss, injury or destruction shall not release vendor from any obligation hereunder

ASSIGNMENTS: The ensuing proposed contract will provide that the vendor may not assign any payment or portions of payments without prior written consent of the County of Fresno.

ASSURANCES: Any contract awarded under this RFQ must be carried out in full compliance with the Civil Rights Act of 1964, the Americans With Disabilities Act of 1990, their subsequent amendments, and any and all other laws protecting the rights of individuals and agencies. The County of Fresno has a zero tolerance for discrimination, implied or expressed, and wants to ensure that policy continues under this RFQ. The contractor must also guarantee that services, or workmanship, provided will be performed in compliance with all applicable local, state, or federal laws and regulations pertinent to the types of services, or project, of the nature required under this RFQ. In addition, the contractor may be required to provide evidence substantiating that their employees have the necessary skills and training to perform the required services or work.

OBLIGATIONS OF CONTRACTOR: Contractor warrants on behalf of itself and all subcontractors engaged for the performance of the ensuing contract that only persons authorized to work in the United States pursuant to the Immigration Reform and Control Act of 1986 and other applicable laws shall be employed in the performance of the work hereunder.

TIE BIDS: With all other factors being equal, the contract shall be awarded to the Fresno County vendor or, if neither or both are Fresno County vendors, the tied vendors will be granted the opportunity to submit new bids or the entire bid may be rejected and re-bid. If the General Requirements of the RFQ state that they are applicable, the provisions of the Fresno County Local Vendor Preference shall take priority over this paragraph.

DATA SECURITY: Individuals and/or agencies that enter into a contractual relationship with the County for the purpose of providing services must employ adequate controls and data security measures, both internally and externally to ensure and protect the confidential information and/or data provided to contractor by the County, preventing the potential loss, misappropriation or inadvertent access, viewing, use or disclosure of County data including sensitive or personal client information; abuse of County resources; and/or disruption to County operations.

Individuals and/or agencies may not connect to or use County networks/systems via personally owned mobile, wireless or handheld devices unless authorized by County for telecommuting purposes and provide a secure connection; up to date virus protection and mobile devices must have the remote wipe feature enabled. Computers or computer peripherals including mobile storage devices may not be used (County or Contractor device) or brought in for use into the County's system(s) without prior authorization from County's Chief Information Officer and/or designee(s).

No storage of County's private, confidential or sensitive data on any hard-disk drive, portable storage device or remote storage installation unless encrypted according to advance encryption standards (AES of 128 bit or higher).

The County will immediately be notified of any violations, breaches or potential breaches of security related to County's confidential information, data and/or data processing equipment which stores or processes County data, internally or externally.

County shall provide oversight to Contractor's response to all incidents arising from a possible breach of security related to County's confidential client information. Contractor will be responsible to issue any notification to affected individuals as required by law or as deemed necessary by County in its sole discretion. Contractor will be responsible for all costs incurred as a result of providing the required notification.

AUDITS AND RETENTION: The Contractor shall maintain in good and legible condition all books, documents, papers, data files and other records related to its performance under this contract. Such records shall be complete and available to Fresno County, the State of California, the federal government or their duly authorized representatives for the purpose of audit, examination, or copying during the term of the contract and for a period of at least three (3) years following the County's final payment under the contract or until conclusion of any pending matter (e.g., litigation or audit), whichever is later. Such records must be retained in the manner described above until all pending matters are closed.

EPAYMENT OPTION: The County of Fresno provides an Epay Program which involves payment of invoices by a secure Visa account number assigned to the supplier after award of contract. Notification of payments and required invoice information are issued to the supplier's designated Accounts Receivable contact by e-mail remittance advice at time of payment. To learn more about the benefits of an Epay Program, how it works, and obtain answers to frequently asked questions, click or copy and paste the following URL into your browser: www.bankofamerica.com/epayablesvendors or call Fresno County Accounts Payable, 559-600-3609.

SUBCONTRACTORS:

List all subcontractors that would perform work in excess of one/half of one percent of the total amount of your bid, and state general type of work such subcontractor would be performing. The primary contractor is not relieved of any responsibility by virtue of using a subcontractor:

INSURANCE REQUIREMENTS

INSURANCE: Without limiting the County's right to obtain indemnification from Contractor or any third parties, Contractor, at its sole expense, shall maintain in full force and effect, the following insurance policies or a program of self-insurance, including but not limited to, an insurance pooling arrangement or Joint Powers Agreement (JPA) throughout the term of the Agreement:

- A. Commercial General Liability: Commercial General Liability Insurance with limits of not less than Two Million Dollars (\$2,000,000.00) per occurrence and an annual aggregate of Four Million Dollars (\$4,000,000.00). This policy shall be issued on a per occurrence basis. County may require specific coverage including completed operations, product liability, contractual liability, Explosion-Collapse-Underground, fire legal liability or any other liability insurance deemed necessary because of the nature of the contract.
- B. Automobile Liability: Comprehensive Automobile Liability Insurance with limits of not less than One Million Dollars (\$1,000,000.00) per accident for bodily injury and for property damages. Coverage should include any auto used in connection with this Agreement.
- C. Professional Liability: If Contractor employs licensed professional staff, (e.g., Ph.D., R.N., L.C.S.W., M.F.C.C.) in providing services, Professional Liability Insurance with limits of not less than One Million Dollars (\$1,000,000.00) per occurrence, Three Million Dollars (\$3,000,000.00) annual aggregate.

This coverage shall be issued on a per claim basis. Contractor agrees that it shall maintain, at its sole expense, in full force and effect for a period of three years following the termination of this Agreement, one or more policies of professional liability insurance with limits of coverage as specified herein.

- D. Worker's Compensation: A policy of Worker's Compensation insurance as may be required by the California Labor Code.

Additional Requirements Relating to Insurance:

Contractor shall obtain endorsements to the Commercial General Liability insurance naming the County of Fresno, its officers, agents, and employees, individually and collectively, as additional insured, but only insofar as the operations under this Agreement are concerned. Such coverage for additional insured shall apply as primary insurance and any other insurance, or self-insurance, maintained by County, its officers, agents and employees shall be excess only and not contributing with insurance provided under Contractor's policies herein. This insurance shall not be cancelled or changed without a minimum of thirty (30) days advance written notice given to County.

Contractor hereby waives its right to recover from County, its officers, agents, and employees any amounts paid by the policy of worker's compensation insurance required by this Agreement. Contractor is solely responsible to obtain any endorsement to such policy that may be necessary to accomplish such waiver of subrogation, but Contractor's waiver of subrogation under this paragraph is effective whether or not Contractor obtains such an endorsement.

Within thirty (30) days from the date Contractor executes this Agreement, Contractor shall provide certificates of insurance and endorsement as stated above for all of the foregoing policies, as required herein, to the **County of Fresno, Attn: Ryan Ramos, Department of Child Support Services, P.O. Box 12946, Fresno, CA 93779**, stating that such insurance coverage have been obtained and are in full force; that the County of Fresno, its officers, agents and employees will not be responsible for any premiums on the policies; that such Commercial General Liability insurance names the County of Fresno, its officers, agents and employees, individually and collectively, as additional insured, but only insofar as the operations under this Agreement are concerned; that such coverage for additional insured shall apply as primary insurance and any other insurance, or self-insurance, maintained by County, its officers, agents and employees, shall be excess only and not contributing with insurance provided under Contractor's policies herein; and that this insurance shall not be cancelled or changed without a minimum of thirty (30) days advance, written notice given to County.

In the event Contractor fails to keep in effect at all times insurance coverage as herein provided, the County may, in addition to other remedies it may have, suspend or terminate this Agreement upon the occurrence of such event.

All policies shall be with admitted insurers licensed to do business in the State of California. Insurance purchased shall be purchased from companies possessing a current A.M. Best, Inc. rating of A FSC VII or better.

BIDDER TO COMPLETE THE FOLLOWING:

PARTICIPATION

The County of Fresno is a member of the Central Valley Purchasing Group. This group consists of Fresno, Kern, Kings, and Tulare Counties and all governmental, tax supported agencies within these counties.

Whenever possible, these and other tax supported agencies co-op (piggyback) on contracts put in place by one of the other agencies.

Any agency choosing to avail itself of this opportunity, will make purchases in their own name, make payment directly to the contractor, be liable to the contractor and vice versa, per the terms of the original contract, all the while holding the County of Fresno harmless. If awarded this contract, please indicate whether you would extend the same terms and conditions to all tax supported agencies within this group as you are proposing to extend to Fresno County.

☐

Yes, we will extend contract terms and conditions to all qualified agencies within the Central Valley Purchasing Group and other tax supported agencies.

☐

No, we will not extend contract terms to any agency other than the County of Fresno.

(Authorized Signature)

Title

SCOPE OF WORK

The successful bidder will provide Deoxyribonucleic Acid (DNA) Genetic Parentage Testing services for the County in order to establish parentage for children within and outside of the County. If there are any services that a bidder is not able to provide, this should be noted and explained fully. Bidders must complete the Comply/ Not Comply and Submittal Requirements, contained in this RFQ

Currently, the testing is primarily done by buccal swab. Testing volume averages around one hundred samples per month. Draws are currently completed every Tuesday from 8:00 a.m. to 5:00 p.m. and every other Thursday from 1:00 p.m. to 5:00 p.m.

The County is requesting a three (3) year contract, with two (2) optional 1-year renewals. The effective date of the contract will be January 1, 2019. The current vendor will complete all partial case samples in their possession at the end of the current contract.

SUBMITTAL REQUIREMENTS

All bidders shall provide sufficient information to enable a complete evaluation of the laboratory's technical approach, project personnel, management operations, corporate experience, and pricing. Pursuant to instructions included in this RFQ, Scope of Work and Submittal Requirements, bidders shall include a response to the following:

1. Bids shall include a discussion of the proposed technical approach and a summary of the laboratory's specific testing experience and include any experience with governmental entities listing unit and location.
2. Provide your laboratory's experience, performed under AABB accreditation, with California Child Support casework and trials.
3. Contractor shall maintain an organizational structure and sufficient staff to administer and supervise all of the functions for which they are responsible under the terms of this RFQ and all applicable laws. Provide the names and resumes (curriculum vitae) of key staff members.
4. Bids must state method of testing to be performed. Include:
 - a. All DNA probes used
 - b. Source of DNA probes used
 - c. Ownership of national database
 - d. Size of isolated national database
 - e. Ethnicity by percentage of national database (The Central Valley has a large Asian population that does not exist through the United States)
5. Provide a statement regarding your ability to provide services to varied ethnic populations.
6. Indicate in the bid whether the organization has conducted, documented, and published validation studies on their databases and biostatistical methods to ensure success on meeting California Kelly-Frye challenges. If so, copies of said studies are to be submitted with the bid.
7. Provide the proposed day or days the draws/samples are to be completed/obtained, and specimen requirements.
8. Provide your median and maximum laboratory wide turnaround time.
9. Any special proposed uses of County of Fresno resources and personnel need to be noted.
10. A list of any special services or access to other experts and resources which the firm maintains for the purpose of this contract need to be noted.
11. Provide a copy of your AABB accreditation.
12. Provide a sample Test Result report.

VENDOR MUST COMPLETE AND RETURN WITH REQUEST FOR QUOTATION.

Firm: _____

REFERENCE LIST

Provide a list of at least five (5) customers for whom you have recently provided similar products/services. If you have held a contract for similar services with the County of Fresno within the past seven (7) years, list the County as one of your customers. Please list the person most familiar with your contract. Be sure to include all requested information.

Reference Name: _____ Contact: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone No.: (_____) _____ Date: _____
Service Provided: _____

Reference Name: _____ Contact: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone No.: (_____) _____ Date: _____
Service Provided: _____

Reference Name: _____ Contact: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone No.: (_____) _____ Date: _____
Service Provided: _____

Reference Name: _____ Contact: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone No.: (_____) _____ Date: _____
Service Provided: _____

Reference Name: _____ Contact: _____
Address: _____
City: _____ State: _____ Zip: _____
Phone No.: (_____) _____ Date: _____
Service Provided: _____

Failure to provide a list of at least five (5) customers may be cause for rejection of this RFQ.

COMPLY/NOT COMPLY

Compliance and understanding of the specification is to be noted by marking "COMPLY" on the line provided to the right of the specification. Non-compliance is to be indicated by marking "NOT COMPLY" on the line. A detailed statement explaining why they fail to meet the stated specification or requirement must accompany all non-compliant items.

Failure to mark this page could result in your quotation being non-responsive.

BIDDER TO COMPLETE THE FOLLOWING:

**COMPLY/
NOT COMPLY**

1. Contractor shall supervise the drawing of samples, which shall include completion of identification papers, a photograph, and chain of custody documentation from drawing to laboratory, and within the laboratory. Samples will need to be retained for a minimum of seven to ten (7-10) years. _____
2. Contractor shall continue to test each individual sample until evidence for non-paternity is obtained or a likelihood of paternity with a Paternity Index of 100 (probability of paternity > 99%) or greater is obtained or until all available systems at the disposal of the laboratory are used. _____
3. Contractor shall provide Special Request Testing. At the request of the County, the Contractor shall test in designated systems in individual cases although all of such systems may not be necessary to reach a paternity index of 100. _____
4. Contractor should utilize phlebotomists or trained specimen collectors for the buccal swab testing, however phlebotomists shall be used for blood testing. Independent contractors utilized by your organization for specimen collection are considered subcontractors of your organization under the terms of this contract. _____
5. Contractor shall be certified as an accredited DNA parentage-testing laboratory by the AABB (formerly the American Association of Blood Banks). _____
6. Contractor shall provide test result reports to the County in a standard matter which shall include the following: _____
 - a. Table of Results
 - b. Interpretation of results
 - c. Probability of paternity
 - d. Effect of prior probability and likelihood of paternity
 - e. Power of exclusion (power to exclude a party when there is a question of the possibility of fatherhood between two or more males such as the case with two brothers or cousins with a close genetic background).
 - f. Chain of Custody documentation
7. Contractor shall ensure guardian consent is received for the minor mother's sample and the alleged minor father's sample, as well as the infant or child's sample. _____

BIDDER TO COMPLETE THE FOLLOWING:

**COMPLY/
NOT COMPLY**

- | | |
|---|-------|
| 8. Contractor's maximum turnaround time may not exceed four weeks from drawing to issuance of report. Performance for Fresno County shall meet or exceed laboratory wide performance | <hr/> |
| 9. Contractor shall furnish an expert or experts to testify as to the results of the tests. Expert witnesses are called to testify on average three to six times per year. The expert shall currently possess education, training, and expertise consistent with industry standards. The expert witness shall be available on a twenty-four hour "on call" basis (available to testify within twenty-four hours after notification). | <hr/> |
| 10. The Contractor's expert or experts shall be available to consult with County staff, and capable of calculating paternity indices based on comparison with a related adult male, and based on family studies, as well as in the standard format. | <hr/> |
| 11. Fresno County will provide a drawing station located at the B.F. Sisk Courthouse for the Department of Child Support Services, however the Contractor shall provide the ability to draw at other locations if necessary, i.e., jail, hospitals, morgue, etc. | <hr/> |
| 12. When an expedited draw is needed, as in the case of a deceased individual before the DNA degrades, the Contractor shall collect DNA specimens from a deceased person within twenty-four hours after notification. It is anticipated that no more than five such collections would occur each calendar year. | <hr/> |
| 13. Contractor shall maintain confidentiality and may not use or disclose any information concerning applicants. Recipients will be limited to courts, law enforcement officials, and other public officials for purposes directly connected with the administration of the state plan for establishing paternity and enforcing child support, including establishing eligibility, determining amounts of assistance, identifying and locating putative or deserting parents, establishing paternity, enforcing investigation, prosecution or criminal or civil proceedings, conducted in connection with the administration of the state plan. No information shall be disclosed to any committee or legislative body which identifies any applicant or recipient of public assistance by name or address. | <hr/> |
| 14. The charge per individual shall include drawing, completion of identification papers, packaging of the sample for shipment, testing, and issuance of the report. Costs for shipment shall be separately stated. | <hr/> |
| 15. Fee schedule shall be firm for the duration of the contract. | <hr/> |
| 16. Contractor shall provide monthly invoices. Payment for the services provided will be made monthly after the test results and invoice has been received. | <hr/> |

****Please Note:** Failure to comply to all services requested will not automatically disqualify any Bidder.

QUOTATION SCHEDULE

Testing with buccal swabs	\$ _____	per person
Testing with blood samples	\$ _____	per person
Additional testing required to reach a paternity index of 100	\$ _____	per person
Consultation by laboratory with other laboratories to confirm unusual or uncertain results	\$ _____	per person
Drawing and identification fee (Fresno County area)	\$ _____	per person
Drawing and identification fee (outside Fresno County)	\$ _____	per person
Expert witness fee (court or deposition time)	\$ _____	per person
Retesting requested by laboratory	\$ _____	per person
Miscellaneous expense (define)	\$ _____	per person

CHECK LIST

This Checklist is provided to assist the vendors in the preparation of their bid response. Included in this list, are important requirements and is the responsibility of the bidder to submit with the bid package in order to make the bid compliant. Because this checklist is just a guideline, the bidder must read and comply with the bid in its entirety.

Check off each of the following:

1. _____ The Request for Quotation (RFQ) has been signed and completed.
2. _____ Addenda, if any, have been signed and included in the bid package.
3. _____ The completed *Reference List* as provided with this RFQ.
4. _____ The *Quotation Schedule* as provided with this RFQ has been completed, price reviewed for accuracy and any corrections initialed.
5. _____ Indicate all of bidder exceptions to the County's requirements, conditions and specifications as stated within this RFQ.
6. _____ The *Participation* page as provided within this RFQ has been signed and included
7. _____ *Bidder to Complete* page as provided with this RFQ.
8. _____ Verification of Contractor's License and the Department of Consumer Affairs – Contractors' State License Board.
9. _____ Return checklist with RFQ response.
10. _____ **Completed RFQ in pdf format, electronically submitted to the Bid Page on Public Purchase.**

2005 California Family Code Sections 7550-7558 CHAPTER 2. BLOOD TESTS TO DETERMINE PATERNITY

FAMILY.CODE SECTION 7550-7558

7550. This chapter may be cited as the Uniform Act on Blood Tests to Determine Paternity.
(Amended by Stats. 1993, Ch. 219, Sec. 174. Effective January 1, 1994.)

7551. In a civil action or proceeding in which paternity is a relevant fact, the court may upon its own initiative or upon suggestion made by or on behalf of any person who is involved, and shall upon motion of any party to the action or proceeding made at a time so as not to delay the proceedings unduly, order the mother, child, and alleged father to submit to genetic tests. If a party refuses to submit to the tests, the court may resolve the question of paternity against that party or enforce its order if the rights of others and the interests of justice so require. A party's refusal to submit to the tests is admissible in evidence in any proceeding to determine paternity. For the purposes of this chapter, "genetic tests" means any genetic test that is generally acknowledged as reliable by accreditation bodies designated by the United States Secretary of Health and Human Services.

(Amended by Stats. 1997, Ch. 599, Sec. 36. Effective January 1, 1998.)

7551.5. All hospitals, local child support agencies, welfare offices, and family courts shall facilitate genetic tests for purposes of enforcement of this chapter. This may include having a health care professional available for purposes of extracting samples to be used for genetic testing.

(Added by Stats. 1999, Ch. 652, Sec. 6. Effective January 1, 2000.)

7552. The genetic tests shall be performed by a laboratory approved by any accreditation body that has been approved by the United States Secretary of Health and Human Services. Any party or person at whose suggestion the tests have been ordered may demand that other experts, qualified as examiners of blood types, perform independent tests under order of the court, the results of which may be offered in evidence. The number and qualifications of these experts shall be determined by the court.

(Amended by Stats. 1998, Ch. 485, Sec. 66. Effective January 1, 1999.)

7552.5. (a) A copy of the results of all genetic tests performed under Section 7552 or 7558 shall be served upon all parties, by any method of service authorized under Chapter 5 (commencing with Section 1010) of Title 14 of Part 2 of the Code of Civil Procedure except personal service, no later than 20 days prior to any hearing in which the genetic test results may be admitted into evidence. The genetic test results shall be accompanied by a declaration under penalty of perjury of the custodian of records or other qualified employee of the laboratory that conducted the genetic tests, stating in substance each of the following:

(1) The declarant is the duly authorized custodian of the records or other qualified employee of the laboratory, and has authority to certify the records.

(2) A statement which establishes in detail the chain of custody of all genetic samples collected, including the date on which the genetic sample was collected, the identity of each person from whom a genetic sample was collected, the identity of the person who performed or witnessed the collecting of the genetic samples and packaged them for transmission to the laboratory, the date on which the genetic samples were received by the laboratory, the identity of the person who unpacked the samples and forwarded them to the person who performed the laboratory analysis of the genetic sample, and the identification and qualifications of all persons who performed the laboratory analysis and published the results.

(3) A statement which establishes that the procedures used by the laboratory to conduct the tests for which the test results are attached are used in the laboratory's ordinary course of business to ensure accuracy and proper identification of genetic samples.

(4) The genetic test results were prepared at or near the time of completion of the genetic tests by personnel of the business qualified to perform genetic tests in the ordinary course of business.

(b) The genetic test results shall be admitted into evidence at the hearing or trial to establish paternity, without the need for foundation testimony of authenticity and accuracy, unless a written objection to the genetic test results is filed with the court and served on all other parties, by any party no later than five days prior to the hearing or trial where paternity is at issue.

(c) If a written objection is filed with the court and served on all parties within the time specified in subdivision (b), experts appointed by the court shall be called by the court as witnesses to testify to their findings and are subject to cross-examination by the parties.

(d) If a genetic test reflects a paternity index of 100 or greater, the copy of the results mailed under subdivision (a) shall be accompanied with a voluntary declaration of paternity form, information prepared according to Section 7572.

(Amended by Stats. 1999, Ch. 652, Sec. 7. Effective January 1, 2000.)

7553. (a) The compensation of each expert witness appointed by the court shall be fixed at a reasonable amount. It shall be paid as the court shall order. Except as provided in subdivision (b), the court may order that it be paid by the parties in the proportions and at the times the court prescribes, or that the proportion of any party be paid by the county, and that, after payment by the parties or the county or both, all or part or none of it be taxed as costs in the action or proceeding.

(b) If the expert witness is appointed for the court's needs, the compensation shall be paid by the court.

(Amended by Stats. 2012, Ch. 470, Sec. 22. (AB 1529) Effective January 1, 2013.)

7554. (a) If the court finds that the conclusions of all the experts, as disclosed by the evidence based upon the tests, are that the alleged father is not the father of the child, the question of paternity shall be resolved accordingly.

(b) If the experts disagree in their findings or conclusions, or if the tests show the probability of the alleged father's paternity, the question, subject to Section 352 of the Evidence Code, shall be submitted upon all the evidence, including evidence based upon the tests.

(Enacted by Stats. 1992, Ch. 162, Sec. 10. Operative January 1, 1994.)

7555. (a) There is a rebuttable presumption, affecting the burden of proof, of paternity, if the court finds that the paternity index, as calculated by the experts qualified as examiners of genetic markers, is 100 or greater. This presumption may be rebutted by a preponderance of the evidence.

(b) As used in this section:

(1) "Genetic markers" mean separate genes or complexes of genes identified as a result of genetic tests.

(2) "Paternity index" means the commonly accepted indicator used for denoting the existence of paternity. It expresses the relative strength of the test results for and against paternity. The paternity index, computed using results of various paternity tests following accepted statistical principles, shall be in accordance with the method of expression accepted at the International Conference on Parentage Testing at Airlie House, Virginia, May 1982, sponsored by the American Association of Blood Banks.

(Amended by Stats. 1997, Ch. 599, Sec. 39. Effective January 1, 1998.)

7556. This part applies to criminal actions subject to the following limitations and provisions:

(a) An order for the tests shall be made only upon application of a party or on the court's initiative.

(b) The compensation of the experts, other than an expert witness appointed by the court for the court's needs, shall be paid by the county under order of court. The compensation of an expert witness appointed for the court's needs shall be paid by the court.

(c) The court may direct a verdict of acquittal upon the conclusions of all the experts under Section 7554; otherwise, the case shall be submitted for determination upon all the evidence.

(Amended by Stats. 2012, Ch. 470, Sec. 23. (AB 1529) Effective January 1, 2013.)

7557. Nothing in this part prevents a party to an action or proceeding from producing other expert evidence on the matter covered by this part; but, where other expert witnesses are called by a party to the action or proceeding, their fees shall be paid by the party calling them and only ordinary witness fees shall be taxed as costs in the action or proceeding.

(Enacted by Stats. 1992, Ch. 162, Sec. 10. Operative January 1, 1994.)

7558. (a) This section applies only to cases where support enforcement services are being provided by the local child support agency pursuant to Section 17400.

(b) In any civil action or proceeding in which paternity is a relevant fact, and in which the issue of paternity is contested, the local child support agency may issue an administrative order requiring the mother, child, and the alleged father to submit to genetic testing if any of the following conditions exist:

(1) The person alleging paternity has signed a statement under penalty of perjury that sets forth facts that establish a reasonable possibility of the requisite sexual conduct between the mother and the alleged father.

(2) The person denying paternity has signed a statement under penalty of perjury that sets forth facts that establish a reasonable possibility of the nonexistence of the requisite sexual contact between the parties.

(3) The alleged father has filed an answer in the action or proceeding in which paternity is a relevant fact and has requested that genetic tests be performed.

(4) The mother and the alleged father agree in writing to submit to genetic tests.

(c) Notwithstanding subdivision (b), the local child support agency may not order an individual to submit to genetic tests if the individual has been found to have good cause for failure to cooperate in the determination of paternity pursuant to Section 11477 of the Welfare and Institutions Code.

(d) The local child support agency shall pay the costs of any genetic tests that are ordered under subdivision (b), subject to the county obtaining a court order for reimbursement from the alleged father if paternity is established under Section 7553.

(e) Nothing in this section prohibits any person who has been ordered by the local child support agency to submit to genetic tests pursuant to this section from filing a notice of motion with the court in the action or proceeding in which paternity is a relevant fact seeking relief from the local child support agency's order to submit to genetic tests. In that event, the court shall resolve the issue of whether genetic tests should be ordered as provided in Section 7551. If any person refuses to submit to the tests after receipt of the administrative order pursuant to this section and fails to seek relief from the court from the administrative order either prior to the scheduled tests or within 10 days after the tests are scheduled, the court may resolve the question of paternity against that person or enforce the administrative order if the rights of others or the interest of justice so require. Except as provided in subdivision (c), a person's refusal to submit to tests ordered by the local child support agency is admissible in evidence in

any proceeding to determine paternity if a notice of motion is not filed within the timeframes specified in this subdivision.

(f) If the original test result creates a rebuttable presumption of paternity under Section 7555 and the result is contested, the local child support agency shall order an additional test only upon request and advance payment of the contestant.

(Amended by Stats. 2000, Ch. 808, Sec. 72. Effective September 28, 2000.)

COUNTY OF FRESNO
ADDENDUM NUMBER: ONE (1)
RFQ NUMBER: 18-058
DNA - PATERNITY TESTING SERVICES

Issue Date: July 19, 2018

CLOSING DATE: AUGUST 15, 2018 AT 2:00 P.M.

Submit all Questions and Quotations on the Bid Page at Public Purchase.

For assistance contact **Darren Howard** at (559) 600-7110.

NOTE THE FOLLOWING AND ATTACHED ADDITIONS, DELETIONS AND/OR CHANGES TO THE REQUIREMENTS OF REQUEST FOR QUOTATION NUMBER: 18-058 AND INCLUDE THEM IN YOUR RESPONSE. PLEASE SIGN AND RETURN THIS ADDENDUM WITH YOUR QUOTATION.

- **Delete page 20 (Checklist) of the RFQ and replace with the Revised Checklist.**
- **Questions and Answers.**

ACKNOWLEDGMENT OF ADDENDUM NUMBER ONE (1) TO RFQ 18-058

COMPANY NAME: _____
(PRINT)

SIGNATURE: _____

NAME & TITLE: _____
(PRINT)

QUESTIONS AND ANSWERS

Q1. Can the vendor conference on July 24th be attended via telephone, or must a representative appear in person?

A1. Vendors have the option of joining the meeting by phone using the following information:

Bidders are to contact Darren Howard at (559) 600-7110 or countypurchasing@fresnocountyca.gov to receive a Skype invitation to the conference call.

Skype for Business Meeting:

Date: July 24, 2018 at 10:00 AM Pacific

Conference Call # (559)-600-9870

Conference ID: 6602349

(Skype for Business is not required to participate. The link provided in the emailed invitation will open Skype for Business in any web browser or bidders can dial in with conference number and ID.)

Q2. The submittal requirements listed on page 15 of the RFQ are clear; however, the checklist provided on page 20 seems to lack elements of the proposal that need to be included; i.e. the Comply/Not Comply list (pages 17-18), list of subcontractors (page 10), etc. It also does not indicate an exact order in which items are to be submitted. Can the County provide a comprehensive checklist indicating the exact order in which the submittals are to be provided in the RFQ response?

A2. See the Revised Checklist

REVISED CHECK LIST

This Checklist is provided to assist the vendors in the preparation of their bid response. Included in this list, are important requirements and is the responsibility of the bidder to submit with the bid package in order to make the bid compliant. Because this checklist is just a guideline, the bidder must read and comply with the bid in its entirety.

Check off each of the following:

1. _____ The Request for Quotation (RFQ) has been signed and completed.
2. _____ Addenda, if any, have been signed and included in the bid package.
3. _____ Subcontractors page as provided with this RFQ.
4. _____ The *Participation* page as provided within this RFQ has been signed and included
5. _____ The completed *Reference List* as provided with this RFQ.
6. _____ The completed Comply/Not Comply as provided within this RFQ.
7. _____ The *Quotation Schedule* as provided with this RFQ has been completed, price reviewed for accuracy and any corrections initialed.
8. _____ Indicate all of bidder exceptions to the County's requirements, conditions and specifications as stated within this RFQ.
9. _____ *Bidder to Complete* page as provided with this RFQ.
10. _____ Response to Submittal Requirements.
11. _____ Return checklist with RFQ response.
12. _____ **Completed RFQ in pdf format, electronically submitted to the Bid Page on Public Purchase.**

COUNTY OF FRESNO
ADDENDUM NUMBER: TWO (2)
RFQ NUMBER: 18-058
DNA - PATERNITY TESTING SERVICES

Issue Date: August 1, 2018

CLOSING DATE: AUGUST 15, 2018 AT 2:00 P.M.

Submit all Questions and Quotations on the Bid Page at Public Purchase.

For assistance contact **Darren Howard** at (559) 600-7110.

NOTE THE FOLLOWING ADDITIONS, DELETIONS AND/OR CHANGES TO THE REQUIREMENTS OF REQUEST FOR QUOTATION NUMBER: 18-058 AND INCLUDE THEM IN YOUR RESPONSE. PLEASE SIGN AND RETURN THIS ADDENDUM WITH YOUR QUOTATION.

➤ **Questions and Answers.**

ACKNOWLEDGMENT OF ADDENDUM NUMBER TWO (2) TO RFQ 18-058

COMPANY NAME: _____
(PRINT)

SIGNATURE: _____

NAME & TITLE: _____
(PRINT)

Purchasing Use: DH:st

ORG/Requisition: 5110 / 5111800064

QUESTIONS AND ANSWERS

Q1. Is the testing volume 100 samples for each department, or 100 samples combined?

A1. The average is 100 samples combined for both departments.

Q2. Please clarify item #14 of the Comply/Not Comply section. The charges per individual are listed separately. Should this be an all-inclusive cost?

A2. Yes.

Q3. If testing is done outside of Fresno County, could this be an additional charge?

A3. Yes. Any additional fees would need to be noted in the Quotation Schedule.

Q4. Regarding item #7 of the Comply/Not Comply section, how does the contractor ensure consent?

A4. If swabbed in Fresno County, DCSS will handle the scheduling and coordination with the parties. If the non-custodial party is incarcerated, a court order is required in order to test. DCSS will also handle scheduling and coordination in these situations. The Contractor should require a statement of consent for the individual to sign when tested. If the mother or alleged father is a minor, a guardian or custodian's consent and signature is required.

Q5. With regard to the revised checklist provided in Addendum #1, please clarify if Items #1 and #9 are the same; i.e. the completed and signed cover page of the RFQ document.

A5. Item #1 and #9 of the Revised Check List are both referencing the RFQ Cover Page.

COUNTY OF FRESNO



REQUEST FOR QUOTATION

NUMBER: 18-058

DNA - PATERNITY TESTING SERVICES

Issue Date: July 10, 2018

Closing Date: AUGUST 15, 2018 AT 2:00 P.M.

All Questions and Responses must be electronically submitted on the Bid Page on Public Purchase.

For assistance, contact Darren Howard at Phone (559) 600-7110.

BIDDER TO COMPLETE

Undersigned agrees to furnish the commodity or service stipulated in the attached response at the prices and terms stated in this RFQ.
Bid must be signed and dated by an authorized officer or employee.

Except as noted on individual items, the following will apply to all items in the Quotation Schedule:

- A cash discount of 0 % N/A days will apply. County does not accept terms less than 15 days.

DNA Diagnostics Center, Inc.
COMPANY

One DDC Way
ADDRESS

Fairfield,
CITY

OH 45014
STATE ZIP CODE

(513) 881-4005
TELEPHONE NUMBER

(513) 881-4004
FACSIMILE NUMBER

kleis@dnacenter.com
E-MAIL ADDRESS

Kathy Leis
SIGNATURE

Kathy Leis
PRINT NAME

Vice President, Operations
TITLE

Purchasing Use: DH:st

ORG/Requisition: 5110 / 5111800064

COUNTY OF FRESNO
ADDENDUM NUMBER: ONE (1)
RFQ NUMBER: 18-058
DNA - PATERNITY TESTING SERVICES

Issue Date: July 19, 2018

CLOSING DATE: AUGUST 15, 2018 AT 2:00 P.M.

Submit all Questions and Quotations on the Bid Page at Public Purchase.

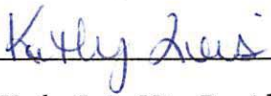
For assistance contact **Darren Howard** at (559) 600-7110.

NOTE THE FOLLOWING AND ATTACHED ADDITIONS, DELETIONS AND/OR CHANGES TO THE REQUIREMENTS OF REQUEST FOR QUOTATION NUMBER: 18-058 AND INCLUDE THEM IN YOUR RESPONSE. PLEASE SIGN AND RETURN THIS ADDENDUM WITH YOUR QUOTATION.

- Delete page 20 (Checklist) of the RFQ and replace with the Revised Checklist.
- Questions and Answers.

ACKNOWLEDGMENT OF ADDENDUM NUMBER ONE (1) TO RFQ 18-058

COMPANY NAME: DNA Diagnostics Center, Inc.
(PRINT)

SIGNATURE: 

NAME & TITLE: Kathy Leis, Vice President, Operations
(PRINT)

Purchasing Use: DH:st

ORG/Requisition: 5110 / 5111800064

COUNTY OF FRESNO
ADDENDUM NUMBER: TWO (2)
RFQ NUMBER: 18-058
DNA - PATERNITY TESTING SERVICES

Issue Date: August 1, 2018

CLOSING DATE: AUGUST 15, 2018 AT 2:00 P.M.

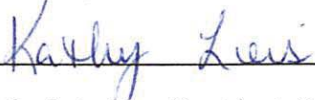
Submit all Questions and Quotations on the Bid Page at Public Purchase.

For assistance contact **Darren Howard** at (559) 600-7110.

NOTE THE FOLLOWING ADDITIONS, DELETIONS AND/OR CHANGES TO THE REQUIREMENTS OF REQUEST FOR QUOTATION NUMBER: 18-058 AND INCLUDE THEM IN YOUR RESPONSE. PLEASE SIGN AND RETURN THIS ADDENDUM WITH YOUR QUOTATION.

➤ **Questions and Answers.**

ACKNOWLEDGMENT OF ADDENDUM NUMBER TWO (2) TO RFQ 18-058

COMPANY NAME: DNA Diagnostics Center, Inc. (PRINT)
SIGNATURE: 
NAME & TITLE: Kathy Leis, Vice President, Operations (PRINT)

Purchasing Use: DH:st

ORG/Requisition: 5110 / 5111800064

Quotation No. 18-058

Page 10

SUBCONTRACTORS:

List all subcontractors that would perform work in excess of one/half of one percent of the total amount of your bid, and state general type of work such subcontractor would be performing. The primary contractor is not relieved of any responsibility by virtue of using a subcontractor:

The following individuals perform specimen collection services for both the DCSS and DSS:

Angelina Perez, Crystal Carreon, and Lori Perez

Quotation No. 18-058

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BIDDER TO COMPLETE THE FOLLOWING:

PARTICIPATION

The County of Fresno is a member of the Central Valley Purchasing Group. This group consists of Fresno, Kern, Kings, and Tulare Counties and all governmental, tax supported agencies within these counties.

Whenever possible, these and other tax supported agencies co-op (piggyback) on contracts put in place by one of the other agencies.

Any agency choosing to avail itself of this opportunity, will make purchases in their own name, make payment directly to the contractor, be liable to the contractor and vice versa, per the terms of the original contract, all the while holding the County of Fresno harmless. If awarded this contract, please indicate whether you would extend the same terms and conditions to all tax supported agencies within this group as you are proposing to extend to Fresno County.

☒ Yes, we will extend contract terms and conditions to all qualified agencies within the Central Valley Purchasing Group and other tax supported agencies.

☐ No, we will not extend contract terms to any agency other than the County of Fresno.



(Authorized Signature)

Vice President, Operations

Title

VENDOR MUST COMPLETE AND RETURN WITH REQUEST FOR QUOTATION.

Firm: DNA Diagnostics Center, Inc.

REFERENCE LIST

Provide a list of at least five (5) customers for whom you have recently provided similar products/services. If you have held a contract for similar services with the County of Fresno within the past seven (7) years, list the County as one of your customers. Please list the person most familiar with your contract. Be sure to include all requested information.

Reference Name: Fresno County DCSS/DSS Contact: Jerry Halphin
Address: P.O. Box 12946
City: Fresno State: CA Zip: 93779
Phone No.: (559) 600-2516 Date: 2012 - present
Service Provided: Genetic paternity testing services

Reference Name: San Francisco DCSS Contact: Caroline Beckett
Address: 617 Mission St.
City: San Francisco State: CA Zip: 94105
Phone No.: (415) 356-2929 Date: 2012 - present
Service Provided: Genetic paternity testing services

Reference Name: Lake County CSE Contact: Deanna Klier
Address: 525 N. Main St.
City: Lakeport State: CA Zip: 95453
Phone No.: (707) 262-4301 Date: 2010 - present
Service Provided: Genetic paternity testing services

Reference Name: Los Angeles County CSSD Contact: Linda Billups
Address: 5770 S. Eastern Ave.
City: Commerce State: CA Zip: 90040
Phone No.: (323) 889-3364 Date: 2009 - present
Service Provided: Genetic paternity testing services

Reference Name: San Luis Obispo CSS Contact: Christine Johnson
Address: 1200 Monterey St.
City: San Luis Obispo State: CA Zip: 93401
Phone No.: (805) 781-5737 Date: 2012 - present
Service Provided: Genetic paternity testing services

Failure to provide a list of at least five (5) customers may be cause for rejection of this RFQ.

VENDOR MUST COMPLETE AND RETURN WITH REQUEST FOR QUOTATION.

Firm: DNA Diagnostics Center, Inc.

REFERENCE LIST

Provide a list of at least five (5) customers for whom you have recently provided similar products/services. If you have held a contract for similar services with the County of Fresno within the past seven (7) years, list the County as one of your customers. Please list the person most familiar with your contract. Be sure to include all requested information.

Reference Name: State of Tennessee Contact: Robert Duck
Address: 400 Deaderick St.
City: Nashville State: TN Zip: 37243
Phone No.: (615) 313-5344 Date: 2009 - present
Service Provided: Genetic paternity testing services

Reference Name: State of Texas Contact: Necia Watson
Address: 5500 E. Oltorf
City: Austin State: TX Zip: 78741
Phone No.: (512) 460-6915 Date: 2014 - present
Service Provided: Genetic paternity testing services

Reference Name: State of Florida Contact: Chris Butterworth
Address: 2450 Shumard Oak Blvd., Bldg. 2, Room 2-4634
City: Tallahassee State: FL Zip: 32399
Phone No.: (850) 617-8055 Date: 2012 - present
Service Provided: Genetic paternity testing services

Reference Name: State of Louisiana Contact: Lydia Scales
Address: 627 N. Fourth St.
City: Baton Rouge State: LA Zip: 70804
Phone No.: (225) 342-4789 Date: 2012 - present
Service Provided: Genetic paternity testing services

Reference Name: State of Mississippi Contact: Lyndsy Landry Irwin
Address: 750 N. State St., 7th Floor
City: Jackson State: MS Zip: 39202
Phone No.: (601) 359-4282 Date: 2012 - present
Service Provided: Genetic paternity testing services

Failure to provide a list of at least five (5) customers may be cause for rejection of this RFQ.

Quotation No. 18-058

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COMPLY/NOT COMPLY

Compliance and understanding of the specification is to be noted by marking "COMPLY" on the line provided to the right of the specification. Non-compliance is to be indicated by marking "NOT COMPLY" on the line. A detailed statement explaining why they fail to meet the stated specification or requirement must accompany all non-compliant items.

Failure to mark this page could result in your quotation being non-responsive.

BIDDER TO COMPLETE THE FOLLOWING:

COMPLY/
NOT COMPLY

1. Contractor shall supervise the drawing of samples, which shall include completion of identification papers, a photograph, and chain of custody documentation from drawing to laboratory, and within the laboratory. Samples will need to be retained for a minimum of seven to ten (7-10) years.

Comply
2. Contractor shall continue to test each individual sample until evidence for non-paternity is obtained or a likelihood of paternity with a Paternity Index of 100 (probability of paternity > 99%) or greater is obtained or until all available systems at the disposal of the laboratory are used.

Comply
3. Contractor shall provide Special Request Testing. At the request of the County, the Contractor shall test in designated systems in individual cases although all of such systems may not be necessary to reach a paternity index of 100.

Comply
4. Contractor should utilize phlebotomists or trained specimen collectors for the buccal swab testing, however phlebotomists shall be used for blood testing. Independent contractors utilized by your organization for specimen collection are considered subcontractors of your organization under the terms of this contract.

Comply
5. Contractor shall be certified as an accredited DNA parentage-testing laboratory by the AABB (formerly the American Association of Blood Banks).

Comply
6. Contractor shall provide test result reports to the County in a standard matter which shall include the following:
 - a. Table of Results
 - b. Interpretation of results
 - c. Probability of paternity
 - d. Effect of prior probability and likelihood of paternity
 - e. Power of exclusion (power to exclude a party when there is a question of the possibility of fatherhood between two or more males such as the case with two brothers or cousins with a close genetic background).
 - f. Chain of Custody documentation

Comply
7. Contractor shall ensure guardian consent is received for the minor mother's sample and the alleged minor father's sample, as well as the infant or child's sample.

Comply

Quotation No. 18-058

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BIDDER TO COMPLETE THE FOLLOWING:

**COMPLY/
NOT COMPLY**

- | | |
|---|---------------|
| 8. Contractor's maximum turnaround time may not exceed four weeks from drawing to issuance of report. Performance for Fresno County shall meet or exceed laboratory wide performance | <u>Comply</u> |
| 9. Contractor shall furnish an expert or experts to testify as to the results of the tests. Expert witnesses are called to testify on average three to six times per year. The expert shall currently possess education, training, and expertise consistent with industry standards. The expert witness shall be available on a twenty-four hour "on call" basis (available to testify within twenty-four hours after notification). | <u>Comply</u> |
| 10. The Contractor's expert or experts shall be available to consult with County staff, and capable of calculating paternity indices based on comparison with a related adult male, and based on family studies, as well as in the standard format. | <u>Comply</u> |
| 11. Fresno County will provide a drawing station located at the B.F. Sisk Courthouse for the Department of Child Support Services, however the Contractor shall provide the ability to draw at other locations if necessary, i.e., jail, hospitals, morgue, etc. | <u>Comply</u> |
| 12. When an expedited draw is needed, as in the case of a deceased individual before the DNA degrades, the Contractor shall collect DNA specimens from a deceased person within twenty-four hours after notification. It is anticipated that no more than five such collections would occur each calendar year. | <u>Comply</u> |
| 13. Contractor shall maintain confidentiality and may not use or disclose any information concerning applicants. Recipients will be limited to courts, law enforcement officials, and other public officials for purposes directly connected with the administration of the state plan for establishing paternity and enforcing child support, including establishing eligibility, determining amounts of assistance, identifying and locating putative or deserting parents, establishing paternity, enforcing investigation, prosecution or criminal or civil proceedings, conducted in connection with the administration of the state plan. No information shall be disclosed to any committee or legislative body which identifies any applicant or recipient of public assistance by name or address. | <u>Comply</u> |
| 14. The charge per individual shall include drawing, completion of identification papers, packaging of the sample for shipment, testing, and issuance of the report. Costs for shipment shall be separately stated. | <u>Comply</u> |
| 15. Fee schedule shall be firm for the duration of the contract. | <u>Comply</u> |
| 16. Contractor shall provide monthly invoices. Payment for the services provided will be made monthly after the test results and invoice has been received. | <u>Comply</u> |
- **Please Note:** Failure to comply to all services requested will not automatically disqualify any Bidder.

QUOTATION SCHEDULE

Testing with buccal swabs	\$ <u>31.25</u>	per person
Testing with blood samples	\$ <u>31.25</u>	per person
Additional testing required to reach a paternity index of 100	\$ <u>0</u>	per person
Consultation by laboratory with other laboratories to confirm unusual or uncertain results	\$ <u>0</u>	per person
Drawing and identification fee (Fresno County area)	\$ <u>0</u>	per person
Drawing and identification fee (outside Fresno County)	\$ <u>0</u>	per person
Expert witness fee (court or deposition time)	\$ <u>0</u>	per person
Retesting requested by laboratory	\$ <u>0</u>	per person
Miscellaneous expense (define)	\$ <u>N/A</u>	per person

EXCEPTIONS

DNA Diagnostics Center, Inc. does not note any exceptions to the requirements and conditions of the Request for Quotation No. 18-058 and will meet or exceed all contractual terms and conditions as specified.

COUNTY OF FRESNO



REQUEST FOR QUOTATION

NUMBER: 18-058

DNA - PATERNITY TESTING SERVICES

Issue Date: July 10, 2018

Closing Date: AUGUST 15, 2018 AT 2:00 P.M.

All Questions and Responses must be electronically submitted on the Bid Page on Public Purchase.

For assistance, contact Darren Howard at Phone (559) 600-7110.

BIDDER TO COMPLETE

Undersigned agrees to furnish the commodity or service stipulated in the attached response at the prices and terms stated in this RFQ.
Bid must be signed and dated by an authorized officer or employee.

Except as noted on individual items, the following will apply to all items in the Quotation Schedule:

- A cash discount of 0 % N/A days will apply. County does not accept terms less than 15 days.

DNA Diagnostics Center, Inc.
COMPANY

One DDC Way
ADDRESS

Fairfield,
CITY

OH 45014
STATE ZIP CODE

(513) 881-4005
TELEPHONE NUMBER

(513) 881-4004
FACSIMILE NUMBER

kleis@dnacenter.com
E-MAIL ADDRESS

Kathy Leis
SIGNATURE

Kathy Leis
PRINT NAME

Vice President, Operations
TITLE

Purchasing Use: DH:st

ORG/Requisition: 5110 / 5111800064

DNA DIAGNOSTICS CENTER, INC.

PROPOSAL TO PROVIDE GENETIC PATERNITY TESTING SERVICES

SUBMITTAL REQUIREMENTS

All bidders shall provide sufficient information to enable a complete evaluation of the laboratory's technical approach, project personnel, management operations, corporate experience, and pricing. Pursuant to instructions included in this RFQ, Scope of Work and Submittal Requirements, bidders shall include a response to the following:

1. Bids shall include a discussion of the proposed technical approach and a summary of the laboratory's specific testing experience and include any experience with governmental entities listing unit and location.

Response: As the incumbent provider of genetic paternity testing services to Fresno County, DDC will continue to utilize the following technical and administrative approach and methodology for management of this contract:

Client Scheduling

DDC will continue to schedule client appointments upon receipt of referrals and will return the applicable information to the County within two business days of receiving the request. DDC will also provide notification to the DCSS and DSS of missed appointments and will reschedule them at no additional charge. Intergovernmental/UIFSA scheduling is conducted via our secure web portal application:

(<https://contracts.dnacenter.com>) called DDC Direct Connect. DDC will continue to work with Fresno County to accommodate any special scheduling requests.

Specimen Collection

DDC will continue to provide specimen collectors who are trained, professional, and proficient at sample collection to collect buccal swab and/or blood specimens at the Fresno County Courthouse and at other collection sites throughout the State of California, the United States, and internationally. DDC also provides its clients with prompt response in emergency situations through its Specimen Collection Network, which is dedicated to the implementation and management of all specimen collectors and collection sites we utilize. DDC provides specimen collectors with all necessary supplies for collecting specimens. DDC closely monitors Fresno County collection personnel and has always ensured coverage at the courthouse, county jail, and other off-site facilities. DDC also responds quickly to emergency situations and has accommodated requests for additional collectors or urgent collections on short notice. DDC's Specimen Collection Network ensures that the collection site is always staffed with competent and efficient collection personnel that will ensure customer satisfaction in Fresno County.

Maintenance of Chain of Custody Documentation

DDC's comprehensive processes ensure an intact, legally admissible chain of custody that will meet the requirements of the State of California and are in compliance with the directives of Fresno County. All DDC chain of custody procedures meet or exceed the requirements established by the AABB. DDC is responsible for maintaining chain of custody throughout all phases of the testing process from specimen collection through storage and archiving of case files and samples. DDC handles all samples in such a manner to ensure that they will not be contaminated, tampered with, or substituted. Chain of custody procedures are also described in detail in DDC's Sample Collection Manual which will be provided upon request.

Specimen Collection

According to the Process Control Section 5.0 of the *Standards for Relationship Testing Laboratories* published by the AABB, the following guidelines apply to sample collection and are strictly adhered to by DDC:

- The laboratory obtains informed consent for all participating individuals to indicate they had knowledge of and granted consent for the test. At the time of specimen collection, DDC's specimen collectors require consent in the form of a court order or written authorization (signature) from the tested party.
- The collection is performed and witnessed by a competent person that has no interest in the testing outcome. DDC's specimen collectors act as witnesses to the sample collection process, and their name and contact information become part of the laboratory's permanent record.
- The person performing the collection will confirm the identity of the person tested and record the stated family relationship. The specimen collector is required to obtain government-issued photo identification of the parties collected to ensure that the sample is collected from the appropriate individual, or in the case of a minor child, obtaining written parental or guardian consent. If a minor child is being collected, a parent or legal guardian must sign the chain of custody form indicating their relationship to the minor child and provide documentation of that relationship.
- In addition, the collected party must initial the swab packet to verify that the label on the specimen is accurate, and all specimens are sealed in tamper-proof packaging prior to shipment to DDC's laboratory.
- The following information is obtained and recorded for each sample collected: name, alleged relationship, race/ethnic background (of mother and alleged father), date of birth, place and date of sample collection, signature, record of identification number from the government-issued photo identification, thumbprint, and a photograph is taken of the positively identified individual. Photos must be sufficiently clear to identify the

individual(s) in the photograph. Individuals will be asked to remove hats, sunglasses, scarves, or anything else that would obscure their facial features.

- DDC requires that all of this information be obtained and recorded on the Client Identification/Chain of Custody form.

The chain of custody form is completed with all required information and adult parties are asked to verify the accuracy of all information prior to sample collection. DDC's chain of custody documentation has been introduced and readily accepted without challenge as an item of evidence in many paternity hearings across the country. The photographs and thumbprints are obtained and samples are placed in a tamper-proof envelope before forwarding to DDC's testing laboratory. DDC requires witnessed client signatures on all chain of custody forms as well as client initials on swab envelopes, thus verifying correct labeling information.

For buccal swab collections, swabs are inserted into color-coded envelopes to protect against the possibility of switching samples: blue envelopes are utilized for alleged fathers; pink envelopes for mothers; and yellow envelopes for child(ren). Specimen envelopes are never pre-labeled.

Four (4) swabs are collected for each individual to be tested. A minimum of two (2) swabs are routinely used for the initial testing, and the remaining swabs are stored intact in the event additional testing is required in the future.

Transportation of Specimens

Specimen collectors package all collected samples and chain of custody documentation in a tamper resistant plastic sleeve, sealed with evidence tape, and then packaged in another tamper-resistant courier package for shipment to DDC's laboratory. DDC has contracts with national overnight courier services (i.e. Federal Express, UPS) for the shipment of specimens to its laboratories, thus ensuring that specimens arrive promptly and securely at the laboratory. DDC will continue to assume all transportation costs.

Laboratory

Upon receipt at the laboratory, samples and chain of custody documents are examined for accuracy and completeness. The integrity of sample shipping containers is verified to ensure that no tampering has occurred between the time of sample collection and the time the package arrives at the laboratory. The accessioning technician signs and dates the chain of custody as an affirmation that the form is complete and that all samples were correctly labeled and received intact. If the integrity of the packaging has been compromised, the DCSS/DSS will be notified and an additional sample requested.

When samples are deemed acceptable for testing, the samples and chain of custody are assigned a bar code with a unique numerical identifier, logged into DDC's Laboratory Information Management System (LIMS), and the corresponding client data is entered. The

courier tracking number is scanned and recorded in LIMS for each sample that is received. All entry of client data must pass a quality audit prior to samples being processed in the laboratory. This process involves a system-driven required concordance check for duplicate entry to ensure samples meet all acceptance criteria and to confirm accurate data entry for spelling of names, dates of birth, etc. Samples are then submitted to the laboratory for processing. DDC utilizes automated processes and equipment whenever possible. By using sophisticated robotic sample handling equipment, the potential for human error in manipulating the layout and placement of samples during the testing process is greatly reduced. DDC continually evaluates existing processes and incorporates advances in technology in order to aid in efficiency, streamline processes, and eliminate human error.

Final case review by DDC's doctoral staff ensures technical and scientific accuracy of paternity test reports. Client names, collection dates, race, case numbers, and unique specimen bar code identifiers are all verified against the information on the chain of custody form as part of this final review. After the results have been issued, all samples and records are stored according to AABB prescribed procedures.

There is complete documentation for each case processed which includes the individuals involved in collecting the samples, courier tracking number, accessioning the samples, testing the samples, data analysis, final review, and storage/archiving. Thus an intact chain of custody from initial specimen collection is created and these records will be maintained for a minimum of seven (7) years *or longer* if specifically requested to meet AABB and Fresno County contractual requirements.

Coordination of Intergovernmental Paternity Testing

DDC's Scheduling Department will continue to coordinate the efficient and timely collection of Intergovernmental/UIFSA and international samples using an extensive network of over four thousand five hundred (4,500) collectors and collection sites. The expansive collection site network enables timely, efficient, and convenient global specimen collection services. In 2017 alone, DDC coordinated specimen collection appointments for well over forty thousand (40,000) cases for interstate, institutional/incarcerated, international, and intrastate testing parties. These sites include: child support agencies, correctional facilities, clinical laboratories, hospitals, clinics, physicians, and health departments. Qualified specimen collectors will perform all interstate and international sample collections according to current AABB standards. DDC will also coordinate the collection of specimens from parties who are in the military or are incarcerated.

For an individual requiring an interstate or international specimen collection, DDC will be responsible for coordinating all aspects of the collection. This includes, but is not limited to: scheduling the collection and following up to ensure that samples reach the laboratory and are analyzed and reported in a timely manner. DDC's dedicated Scheduling Department's primary function is to schedule interstate, intrastate, international, and institutional collections. As a whole, this group has many years of combined experience providing these services to clients, and has extensive experience with the coordination and scheduling of

long-arm and absent party collections. They are familiar with the challenges of coordinating collections and ensure that arrangements are made regardless of area logistics. They are sensitive to special circumstances and will make arrangements to accommodate the needs of the customer.

All intrastate, interstate, and institutional collections generally have confirmed appointments within twenty-four (24) to forty-eight (48) hours after receiving the request. DDC is committed to maintaining these metrics over the term of this contract. DDC believes the County realizes significant financial benefits by accelerating paternity establishment and reducing the time many cases require TANF support.

DDC's secure, on-line scheduling tool is typically the most efficient, accurate, and convenient way to schedule appointments. This tool alleviates the need for the caseworkers to re-enter contact or account information, increases communication accuracy, and can be accessed twenty-four (24) hours per day, seven (7) days per week. DDC's web-based system for scheduling streamlines the ordering process for our customers. The site is accessed through <https://contracts.dnacenter.com> with the secure User ID and password set by each user. This process pre-populates customer data and notifies customers of schedules via e-mail, thus reducing request completion time and eliminating the inefficiencies that typically accompany a paper-based process.

When DDC receives an electronic scheduling request, we will locate a collection site convenient and accommodating to the absent party. The collection site will be equipped to perform court-legal DNA collections under strict chain of custody procedures. A date and time will be established within fifteen to twenty (15-20) working days depending upon the needs of the agency to allow the DCSS/DSS sufficient time to notify the absent party. The confirmed appointment with the client names, case numbers, and collection site information is emailed back to the DCSS/DSS representative. A collection kit with complete instructions, chain of custody, and prepaid shipping materials will promptly be forwarded to the collection site.

DDC includes complete buccal swab collection instructions in each specimen collection kit that is dispatched for an interstate, intrastate, institutional, or international collection. DDC will require that proper photo identification is presented at the time of specimen collection and that all other chain of custody protocols are followed. Adult parties will be required to provide government-issued photo identification. After the specimen collector verifies the identification, the identification number is recorded on the chain of custody form along with the tested party's date of birth. DDC will ensure that no clients are collected without proper identification.

Upon receipt of a request to collect a specimen from an incarcerated party, DDC's Scheduling Department will contact the institution to determine their site-specific procedures. DDC's Scheduling Department will work with the appropriate institution personnel and will collect the sample within a timely manner. If a specimen collector is not

permitted access to a particular facility, DDC will provide a specimen collection kit and complete instructions to the institution so that their personnel can perform the collection. DDC maintains the same stringent specimen collection procedures for parties who are incarcerated as for any other collection (i.e., intergovernmental and local collections), including requirements for photographs (where permitted) and thumbprints. Every year, DDC performs thousands of collections at prison facilities throughout the United States. DDC will also assist in the coordination of the release of tissue and/or blood specimens from deceased parties when requested by Fresno County.

Regarding collections for active military personnel, DDC's Scheduling Associate will send a copy of the court order or test request form, letter and specimen collection kit (complete with shipping supplies and instructions) to the military installation's Commanding Officer. Buccal swab specimens are collected by medical personnel at the infirmary or military hospital and are forwarded to DDC's laboratory for analysis.

For international collections, DDC's Scheduling Associate will contact the U.S. Embassy in the foreign country in question to discuss options for collecting a specimen. In general, hospital or clinical facilities are utilized, and DDC will forward all appropriate paperwork and a specimen collection kit to the designated site in order to facilitate collection. In addition, due to the prevalence of the use of buccal swabs, the collection and international shipment of this type of specimen is non-problematic, and even if there are unforeseen delays in customs or during shipment, degradation of the specimen is not a concern.

DDC will make every effort to coordinate intergovernmental scheduling in a manner that maximizes the efficiency of specimen collections and ensures that all specimens required to complete a case arrive at the laboratory at approximately the same time. DDC will also provide notification of missed appointments and will reschedule them at no additional charge. To date, DDC has successfully managed well over two hundred seventy-five thousand (275,000) absent party collections.

Laboratory Testing Protocols

The ability to perform scientifically valid genetic testing that conforms to industry guidelines and the ability to defend its results in court if necessary are essential in the execution of this contract. DDC is committed to providing every client with accurate, thorough, and expedient paternity test results. DDC provides its clients with DNA testing performed using PCR (Polymerase Chain Reaction) technology and STR (Short Tandem Repeat) markers for routine analysis. DDC has been using STR technology since 1997, having conducted testing on over nine million five hundred fifty thousand (9,500,000) samples to date. This technology is approved by the AABB and is by far the most prevalent DNA testing methodology currently in use by AABB accredited laboratories.

All STR markers employed by DDC for its routine parentage testing are commercially available, and their performance characteristics are well understood, reproducible, validated, and accepted by the scientific and legal communities. DDC will utilize either the Promega

Fusion Kit or Life Technologies Global Filer Kit as the initial routine testing battery. Both of these kits are fully validated and offer twenty-four (24) loci that are common and informative allowing for greater discriminatory power than many other testing batteries. Additionally, they have rapid thermal cycling protocols, which results in reduced turnaround times and enables the focus of the laboratory to be on more value added activities. When necessary, DDC has additional systems that will be used for extended testing. In total, DDC has thirty-six (36) validated and commercially available STR systems (including Amelogenin) which will be deployed as necessary to ensure that tests completed for the Fresno County DCSS/DSS will achieve a guaranteed minimum probability of paternity of 99.999% for standard cases though the majority of standard cases will have an average probability of paternity of 99.999999% or average combined paternity index of one billion to one (1,000,000,000:1). The available STR markers are identified in the table below:

D3S1358	D8S1179	D18S51	CSF1P0	D13S317
D5S818	D21S11	TP0X	FGA	F13B
D7S820	D16S539	LPL	TH01	vWA
Penta E	Penta D	D2S1338	D19S433	Amelogenin
F13A01	FESFPS	Penta C	D8S1115	D6S474
D22S1045	D2S441	SE33	D10S1248	D9S1122
D17S1301	D9S2157	D3S4529	D14S1434	D1S1656
D12S391				

Dual Process™

DDC was commended by the AABB in 2004 for being the first laboratory to truly offer double blind testing. DNA Diagnostics Center is the only DNA testing laboratory that performs every test twice, testing every genetic system in duplicate, not just exclusions, and not just a subset of the genetic markers. Our Dual Processing™ procedures ensure that each sample is tested in duplicate by two different teams working independently. Results from the two groups are compared upon completion of the analysis and must be in agreement for validation of the testing. This expensive and labor-intensive process is the most effective quality assurance program that ensures our testing is of the highest reliability and accuracy. This Dual Process™ is voluntary and far exceeds the industry standard. Every sample is independently logged-in, extracted, processed, and **all genetic systems are analyzed twice** by two separate teams. The two sets of results are reviewed by at least two DNA experts prior to a final review by a Ph.D. Director. Other laboratories provide duplicate testing, yet they only perform this testing on fewer than five (5) genetic markers. To the best of our knowledge, **DDC is the only laboratory that performs duplicate testing on all genetic marker systems that are analyzed.** This double blind testing on each sample ensures rapid turnaround times because there is no delay in repeating excluded alleged fathers. The standard battery and the additional validated systems will easily result in meeting the expected probabilities of paternity for alleged father inclusions and a minimum of four exclusions for alleged fathers that are not the biological father. Fresno County will continue to have a high level of confidence that the correct samples were tested and reported.

Retention of Specimens and Case File Documentation

All records and samples are maintained at the laboratory according to AABB protocols and industry standards. All biological specimens (i.e. blood and cheek swabs) for routine testing are kept in the laboratory until testing is complete. All cheek swab samples are stored at room temperature and all blood samples are stored at 1-6°C. Case records will be maintained for a *minimum* of seven (7) years or longer if specifically requested to meet AABB and Fresno County contractual requirements. All case file records are stored electronically to facilitate rapid information retrieval.

Utilization of Previously Tested Samples

As the incumbent provider of genetic paternity testing services to Fresno County since 2012, DDC has developed an efficient process to manage the coordination of reusing samples/data for previously tested parties. Due to the volume and stipulation to utilize prior samples (when requested) in Fresno County, there is a significant volume of cases where DDC is being requested to use a previously tested party in a subsequent case. DDC's quality processes ensure that the correct parties are identified and matched prior to the commencement of testing. The retest authorization is submitted to DDC and processed when the remaining parties are received. If a party was previously tested and invoiced, DDC will not invoice for that party again. This demonstrates significant savings to Fresno County. This process of reuse saves the County hundreds of dollars annually.

Genetic Testing Experience

DDC is one of the world's largest and most experienced private DNA testing laboratories. Our laboratory was incorporated in the State of Ohio in 1994. In 1995, the Center moved to the current location and was renamed DNA Diagnostics Center (DDC). In 2015, DDC became a wholly owned subsidiary of DDC-DNA Holdings, Inc. DDC has been providing quality genetic testing services for twenty-three (23) years to customers throughout the world.

As one of the nation's largest family relationship testing providers, DDC has developed a reputation for exceptional quality and legendary customer service. Its highly accredited laboratory provides DNA testing services for both government agencies and private customers to resolve the parentage of children and determine other family relationships. DDC is a market leader for the determination of paternity testing not only in the United States but throughout the world. Over the past twenty-three (23) years, DDC has analyzed well over nine million five hundred fifty thousand (9,500,000) family relationship samples in all 50 states and over 173 countries demonstrating our broad experience both domestically and internationally, and we are dedicated to the business of genetic identity testing. Our laboratory facility and its personnel are fully qualified, competent, and capable of implementing and maintaining the requirements of this contract. Throughout DDC's history and path to becoming a leading genetic testing services provider, we have retained the customer-oriented focus characteristic of a smaller organization. DDC prides itself in servicing accounts ranging from a limited number of samples to over 65,000 samples per year, and each customer is treated as a valued partner. This opinion is shared by our

customers and is confirmed through positive customer surveys and through the references that are included with this proposal.

DDC offers comprehensive DNA testing services in several specialty areas: paternity and family relationship testing, forensics, and veterinary testing. DDC established the DNA Technology Park, a 7-acre campus located in Fairfield, Ohio, a suburb north of Cincinnati. DDC has state-of-the-art technology and instrumentation for performing DNA testing in this ultra-modern 66,000 square foot multiple building laboratory complex. The laboratory employs approximately 240 employees, comprised of management, laboratory staff, and customer service personnel dedicated solely to identity testing. Our twelve (12) Ph.D. scientists, together with our laboratory staff, have a combined experience level of more than three hundred fifty (350) years in DNA technology, paternity testing, forensic testing, and genetic studies. Additionally, DDC has multiple additional accredited satellite facilities located in Baltimore, Maryland; Minneapolis, Minnesota; Chicago, Illinois; Boston, Massachusetts; Ridgewood, New Jersey; Philadelphia, Pennsylvania; and Plantation, Florida.



DDC's laboratory facility in Fairfield, Ohio



Aerial View of DDC's Campus in Fairfield, Ohio

DDC's Service Offerings:

DDC provides a wide range of DNA testing services to individuals and organizations around the world. These include paternity and other family relationship testing, immigration testing, ancestry testing, forensics, and veterinary DNA testing. DDC's scientists have the level of experience and depth of expertise required to solve difficult cases in each of these testing specialties. Additional information on all of DDC's service offerings can be found on our website: www.dnacenter.com.

Paternity and Family Relationship Testing

DDC is one of the most experienced private providers of paternity and family relationship testing. DDC will report findings of either a conclusive exclusion (minimum of three (3) direct exclusions) or inclusion that exceeds the AABB's minimum probability of paternity (greater than 99.0%; i.e. paternity index = 100). DDC's testing battery provides a typical probability of paternity of 99.999999% (paternity index = 100,000,000) for standard cases. Our results are routinely recognized by courts and other government agencies in legal cases such as child support and Social Security benefit claims.

In the absence of an alleged father, DDC can provide other testing options in order to help establish the child's relationship including deceased sample testing, grandparentage testing, genetic reconstruction, and siblingship testing.

Non-Invasive Prenatal Testing

Available through DDC, this is one of the most accurate, non-invasive ways to establish paternity before a baby is born. The process is state-of-the-art, combining the latest in DNA SNP microarray technology and proprietary methods of preserving and analyzing the baby's DNA found naturally in the mother's bloodstream.

Immigration Testing

Many clients use DDC's DNA testing services to prove biological ties to a United States citizen who is sponsoring their immigration to the U.S. DDC's immigration specialists know the specific DNA testing standards and procedures for each country, having provided testing to more than 900 agencies and governments in over 173 countries worldwide.

Ancestry Testing Services

DDC offers testing services to assist family historians, genealogists, and those interested in learning more about their heritage. DDC's DNA Origins® testing analyzes 176 ancestry informative markers found throughout a person's genome and calculates their relative bio-geographical ancestry as percentage values of European, Indigenous American, East Asian, and Sub-Saharan African. We also provide maternal mitochondrial lineage testing and paternal Y-STR lineage testing.

Forensics

DDC Forensics offers evidence screening, serological analysis, DNA testing, DNA expert testimony services, forensic paternity analysis, and DNA specimen matching services. We serve as a neutral laboratory providing accurate forensic DNA services and independent consultation to crime laboratories, law enforcement agencies, defense attorneys, and private investigators worldwide. DDC was honored at Ohio Innocence Project's (OIP) tenth Anniversary Gala, celebrating freedom for those exonerated and the organizations that have contributed to the effort. To date, DDC's testing for OIP includes more than 30 cases, resulting in the exonerations of Ohio residents, Robert Towler, Robert McClendon, and Dewey Jones. Working with other Innocence Projects on post-conviction cases throughout the United States, DDC has provided DNA testing that resulted in the exonerations of Florida citizens James Bains, Derrick Williams, and Cheydrick Britt, and Kentucky Innocence Project client, Kerry Porter.

Veterinary DNA Testing

DDC's subsidiary, Veterinary Diagnostics Center, provides innovative, quality DNA testing to breeders, veterinarians, and pet owners for companion and sport animals. We perform DNA profile tests required to register canine species, parentage tests for dogs and cats, avian sex determination, and testing for genetic diseases in horses, dogs, and cats.

As a fully licensed and accredited laboratory, all aspects of parentage testing performed at DDC are in strict compliance with or exceed the standards established by the AABB and its other accrediting agencies. DDC has proven it has the operational capacity, technical resources, and expertly qualified personnel required to manage the paternity genetic testing services contract for Fresno County, and we will continue to provide the highest quality services for the duration of this contract.

In addition to private testing, DDC currently holds state contracts for the performance of paternity testing for child support cases in the District of Columbia, Florida, Illinois, Kentucky, Michigan, Mississippi, Missouri, Nebraska, Ohio, Pennsylvania, Tennessee, Texas, and West Virginia. In addition, DDC performs genetic testing for county, local, and tribal child support offices in the states of Alabama, Alaska, California, Colorado, Idaho, Indiana, Kansas, Louisiana, Maine, Maryland, Minnesota, Montana, New Jersey, New Mexico, New York, North Dakota, Oklahoma, South Dakota, Washington, Wisconsin, and Wyoming. In the past four (4) years, DDC was awarded five (5) major statewide paternity contracts for Texas, Ohio, Kentucky, West Virginia, and Missouri, with Texas being the single largest statewide contract in the United States. DDC's highly experienced team successfully transitioned and executed each project. Contract requirements were incorporated and DDC continues to meet the contract deliverables and provide excellent service levels. The table below and on the following page depicts the annual testing volumes for current DDC contracts and child support offices that DDC services:

States Currently Serviced by DDC's Government Contracts Division

State	Approximate Annual Sample Volume
Alabama	7,500
California	7,500
Colorado	75
Florida	32,000
Illinois	14,500
Indiana	8,500
Kentucky	15,000
Louisiana	4,500
Michigan	22,000
Minnesota	5,000
Mississippi	15,000
Missouri	17,000
Nebraska	5,500
New Jersey	1,000
New Mexico	1,500
New York	7,000
Ohio	55,000
Pennsylvania	19,500
Tennessee	25,000
Texas	65,000
Tribal Native American	2,000
Washington DC	2,000

West Virginia	5,000
Wisconsin	20,000

In addition, the following highlights DDC's extensive experience in the field of genetic parentage testing:

- In 2017, DDC's laboratory provided results for over three hundred twenty-five thousand (325,000) family relationship cases performing genetic testing and analyzing test results for nearly eight hundred fifty thousand (850,000) individuals.
- DDC provides contract services to state and county agencies for programs of only a few samples per year to accounts submitting over sixty-five thousand (65,000) samples per year.
- DDC provides paternity testing services for the private sector as well. In 2017, DDC conducted testing for approximately five hundred thousand (500,000) samples for various private sector clients, including attorneys, corporations, immigration agencies, and private individuals. Nearly three out of every four private family relationship tests are performed by DDC, which is a testimonial to our well renowned, trusted, and reliable testing services.
- DDC will perform DNA analysis exclusively and will provide results of conclusive exclusion or a typical probability of paternity of 99.999999% or higher for standard cases, which exceeds both the AABB standard and the specifications of this solicitation.
- DDC will perform independent, confirmatory DNA analysis for all samples in all cases, not just exclusions, and not just excluded alleged fathers.
- DDC has many years of experience working with Child Support programs nationwide, and is the current supplier of genetic testing services for Fresno County.
- DDC will continue to provide highly skilled, experienced, reliable, and professional specimen collection services in Fresno County, throughout the entire state of California, as well as nationwide and worldwide.
- DDC provides paternity testing using standard autosomal STR (Short Tandem Repeat) markers to resolve the vast majority of paternity analyses. DDC can also provide testing using Y-STRs (paternal lineage), and mitochondrial DNA testing (maternal lineage) as needed to resolve certain difficult cases.
- DDC can extract DNA from many biological materials including standard cheek swabs and blood samples, as well as more complicated tissue, fingernail, bone, teeth, pathology, and hair samples.

- DDC can provide paternity testing in more complicated situations when the mother is not available or when the alleged father is deceased. DDC can conduct complex kinship tests to determine a biological relationship between relatives other than a father and child (i.e. grandparents, aunts/uncles, or siblings).
- Test results will be furnished within a median approximate turnaround time of six (6) days after collection of the last specimen. During the course of our contract with Fresno County, DDC has successfully fulfilled the specified turnaround time requirement and has provided results to the DCSS/DSS with an approximate average turnaround time of six (6) calendar days.
- In addition to our extensive scientific experience in the human identity testing field, DDC also has a strong customer service team. This includes trained specialists who exclusively schedule UIFSA, long arm, international, military, and prison draws, and a Customer Service Associate dedicated to serving the needs of Fresno County.
- DDC's PhD staff is actively involved in the AABB. DDC's Chief Science Officer, Dr. Michael Baird has served as both a member and chair for the Relationship Testing Standards Committee for AABB as well as the Relationship Testing Accreditation Committee. He has also been a member of the Molecular Testing Committee. In addition, DDC's Laboratory Director, Dr. Debra Davis, has been a member of the AABB since 1998, has been part of the AABB Assessor Program for Relationship Testing since 2007 and currently serves on the Relationship Testing Standards subcommittee. Dr. John Peterson, Laboratory Director, currently serves on the AABB Relationship testing accreditation subcommittee.
- DDC is a member of and is involved with many national child support associations, including NCSEA, ERICSA, WICSEC, and numerous state child support associations. Being closely affiliated with these organizations keeps DDC informed about child support enforcement issues and programs.
- DDC has extensive experience providing expert witness testimony services for courts and jurisdictions nationwide.
- DDC has an excellent record in providing accurate invoicing and billing statements.

Experience with State Title IV-D Programs

State of Tennessee Department of Human Services

In 2009, DDC was awarded the contract as a sole provider of genetic testing services for the State of Tennessee Department of Human Services. DDC provides paternity testing services to the Child Support Enforcement offices in all thirty-one (31) Judicial Districts across the state. The services provided include sample collection, laboratory testing, reporting, interstate, intrastate, and institutional party scheduling, expert testimony and statistical

reporting. The original contract term was for a period of five years. DDC was re-awarded the contract resulting from the RFP released in 2014. The current contract period runs until the end of March 2019. The Tennessee contract involves the analysis of approximately 25,000 samples annually.

DDC provides specimen collection personnel at designated times and locations throughout the state. These offices have established schedules and DDC provides the specimen collection personnel. There are some areas where DDC is providing the site and the collector if the Child Support/Judicial District office is not available. DDC has also provided all training, documentation, and supplies needed for those offices that want to perform agency or staff collections. DDC provided this training at quarterly management meetings, in local Judicial District offices, and through web-based training platforms.

Reports are issued to each designated Judicial District. The designated staff in each office access DDC Direct Connect for access to case status, to schedule interstate and institutional requests, review/print reports, and order supplies. The State of Tennessee contract also has a stipulation to use previously tested samples upon request. Designated staff submit requests to use a previously tested sample once the agency has the appropriate authorization to proceed. Once DDC receives the request, the case participants are matched and testing begins. Monthly Case Activity reports are provided to the State along with additional information as requested. DDC staff have participated and made presentations at state quarterly meetings.

Michigan DHS, Office of Child Support

DDC is the sole provider for paternity testing and related services to the State of Michigan. Services provided include specimen collection, intra and interstate scheduling, transportation, analytical testing, electronic result reporting, issuance of monthly statistical reports, and expert witness support. DDC developed and currently maintains a specimen collection schedule that is beneficial to the state from both logistical and economical standpoints. In Wayne County (Detroit metropolitan area) alone, DDC routinely collects 150 samples on any given sample collection day. DDC has conducted self-collection training sessions for various child support offices, and many of the smaller counties in the northern region of the state perform self-collections. In addition, Michigan's Expungement Statute, MCL722.716a, governs the destruction of specimens and isolated genomic DNA, data, and documentation related to excluded alleged fathers 90 days after the reporting of results. DDC must undergo annual audits to ensure compliance with the directives of the expungement regulation and has received satisfactory ratings for every audit conducted. The contract spans five years (2010 through 2015) with the option of two (2) two-year renewals (9-year total contract term through 2019). DDC analyzes and reports approximately 22,000 samples annually for the State of Michigan.

Commonwealth of Pennsylvania, Bureau of Child Support Enforcement

DDC started providing paternity testing services to various counties in the Commonwealth of Pennsylvania in 2003. Since 2012, DDC has provided the full spectrum of genetic testing services to all 67 counties within the Commonwealth of Pennsylvania. Services provided

include but are not limited to, appointment scheduling, sample collection and transportation, laboratory testing, issuing of fully electronic genetic test reports, invoicing, customer service, expert witness services, and performance tracking. DDC was re-awarded the contract resulting from the solicitation released in 2014. The current contract term is from November 2014 through October 2019. DDC analyzes and reports approximately 19,500 samples annually for the Commonwealth of Pennsylvania.

Illinois Department of Healthcare and Family Services

DDC is the sole provider of paternity testing in Title IV-D child support cases for the entire State of Illinois. DDC provides full services for paternity testing to include specimen collection and coordination, transportation, analytical testing, reporting, routine statistical reports, and expert witness testimony as required. One of the challenges of the Illinois contract is the mandated turnaround time of five (5) calendar days from the date of sample collection to the issuance of reports. DDC routinely and successfully reports the vast majority of cases within this specified turnaround time. The contract term is from 2011 through 2014 with two (two-year) renewal options, extending the contract until 2018. DDC was recently re-awarded the Illinois Contract. DDC analyzes and reports approximately 14,500 samples annually for the State of Illinois.

Florida Department of Revenue

DDC has been the sole provider of the complete spectrum of paternity testing services including, but not limited to, appointment scheduling, sample collection and transportation, laboratory testing, issuing genetic test reports, invoicing, customer service, expert witness services, and performance tracking to the State of Florida since December 2011 and was awarded the new contract that began in March 2013. DDC performs several special services to meet contract compliance. Annual volume reported for Florida is approximately 32,000 samples. The current contract extends from March 2013 through February 2016 with three one-year renewal options, extending the contract until 2019.

The State of Florida contract has 2 components, one for testing and one for specimen collection. Under the existing contract, the DOR switched to having DOR agency/staff perform sample collections for all in-state parties collected at a DOR office. DDC developed a thorough training plan with the State to ensure that all staff met competencies in order to perform the collections. The transition to full DOR agency/staff collections was a complete success. DDC monitors the quality of the sample collection and reports any issues to the designated service center manager. Due to the quality of the training plan, issues are very rare. Staff are completing quality collections, and the DOR was able to extend the collection timeframes to better meet the needs of the customer. Samples are sent to DDC for testing. The designated DOR staff receive daily email alerts notifying them when results have been issued. The DOR is utilizing DDC's Direct Connect secure portal to access all reports. Report copies are not mailed in hard copy format and are only provided electronically as requested by the DOR.

All interstate and institutional requests are submitted by authorized DOR staff through DDC Direct Connect. DDC conducts timely scheduling to ensure all contract requirements are met within the specified turnaround time. DDC coordinates collections at institutional facilities throughout the state and country for incarcerated individuals. DDC also schedules appointments for parties in interstate cases. All requests are monitored to ensure timely no-show notification if parties do not appear as scheduled. This information is provided back in an automated process on a daily basis to ensure the DOR is aware if a party missed an appointment.

DDC also receives requests from the DOR to match up and test previously collected DOR samples once the DOR has authorization to proceed. Requests are submitted through DDC Direct Connect. Once DDC receives a request, the parties are matched and tested. DOR staff monitor DDC Direct Connect for case status, case reports, scheduling requests, and to search previously tested DOR parties.

DDC provides Monthly Case Activity Reports as well as Quarterly reports. DDC has an excellent working relationship with the key contacts at the state level as well as staff at the local DOR service centers.

State of Texas, Office of the Attorney General

DDC was awarded the State of Texas contract in July 2014. The contract requires daily exchange of data between the OAG and DDC, and requires comprehensive reporting of collections, testing, and other statistical data. DDC successfully transitioned this contract from the previous vendor in addition to implementing a range of new IT requirements. Services provided under this contract were fully operational in January 2015. The contract has a term of five (5) years, ending in August 2019. The annual sample volume is approximately 65,000 samples.

DDC worked with the OAG to implement the contract for a start date in December 2014. Due to the complexities and deliverables, there was a lengthy implementation phase. DDC provides a large network of Vendor (DDC) sites throughout the State of Texas. In addition, DDC also provides an equally large network of subcontracted specimen collectors that collect samples at designated courthouses throughout Texas. The OAG also conducts staff/agency self-collections in designated Child support office locations throughout the state. DDC developed all of the training protocols and conducted statewide training to OAG staff. Agency staff are successfully performing collections in offices throughout the state and submitting samples to DDC for testing. DDC conducted extensive OAG policy training to specimen collectors and vendor sites to ensure all contract requirements were met.

DDC receives electronic referrals for all OAG cases. DDC staff review the detail to determine which cases require scheduling or other action. DDC completes scheduling for all interstate, incarcerated, and international parties requiring testing. Appointments are set within contract guidelines and for customer convenience. Due to the close proximity of

Texas to Mexico, DDC coordinates a large volume of international cases and has achieved great success.

In addition to DDC company training, DDC staff and collectors have completed Texas required training regarding protection of sensitive personal and IRS information, customer service for external entities, discrimination and harassment, and fundamentals of family violence.

DDC provides the OAG with several monthly case information reports using the data provided in the daily file, along with a Monthly Case Status summary. DDC presents quarterly statistics to the OAG contracts management team. DDC met every deliverable for implementation and successfully performs all requirements for this contract.

State of Ohio, Department of Jobs and Family Services

DDC has been a vendor for the state of Ohio since 2016 providing service to all eighty-eight (88) individual counties. Services provided include specimen collection, intra and interstate scheduling, transportation, analytical testing, reporting, issuance of monthly statistical reports and expert witness support. While the overall contract requirements are consistent within Ohio, each individual county does have unique reporting requirements. DDC has been able to customize its offering in order to meet these individual needs. Annual volume reported for Ohio is approximately 55,000 samples. The current contract extends until June 2018 with five one-year renewal options, extending the contract until 2023.

State of Mississippi Department of Human Services

Since 2012, DDC has provided paternity testing and all associated services for all 82 counties located in the State of Mississippi. This is another contract that initially came to DDC as a result of the transition in the Spring of 2012. This State had been working with the labs in the corporate lineage since 1990. After the initial two-year term (2012 through 2014), Mississippi issued its new RFP in the Spring of 2014. After success with DDC, the State of Mississippi awarded the new contract (July 1, 2014 through June 30, 2019) to DDC.

Under the new contract, DDC helped Mississippi save a considerable amount of funds by transition from an old contract that utilized lab-furnished collectors at CSE offices and remote locations and implemented procedures where CSE associates have the clients swab themselves. DDC took an active role in the training of the collectors under the new procedures of the new contract.

Like all other Child Support accounts, DDC provides the full spectrum of paternity testing services including, but not limited to, appointment scheduling, furnishing supplies for sample collection and transportation, laboratory testing, issuing genetic test reports, invoicing, customer service, online case management website, expert witness services, and performance tracking. Approximate annual sample volume: 15,000.

Commonwealth of Kentucky, Cabinet for Health and Family Services

DDC was awarded the contract for the Commonwealth of Kentucky in June 2014. The start date was July 1, 2014, so there was a condensed implementation period. DDC was able to quickly provide trained, qualified specimen collection personnel in each of the 120 counties along with customer service and testing services starting July 1, 2014. DDC provides the full spectrum of paternity testing services including, but not limited to, appointment scheduling, sample collection and transportation, laboratory testing, issuing electronic genetic test reports, invoicing, customer service, expert witness services, and performance tracking. The designated child support staff receive daily email alerts notifying them when results have been issued. Kentucky is utilizing DDC's Direct Connect secure portal to access all reports. Report copies are not mailed in hard copy format and are only provided electronically as requested by the CSE staff. The contract period extends for six (6) years through June 2020. The approximate annual sample volume for Kentucky is 15,000.

Nebraska Health and Human Services, Child Support Unit

DDC has been the sole provider of genetic testing services to the entire State of Nebraska since 2012. The current contract is effective until September 2014 with another six (6) years of renewal options extending to the year 2020. DDC provides the full spectrum of paternity testing services including, but not limited to, appointment scheduling, sample collection and transportation, laboratory testing, issuing genetic test reports, invoicing, customer service, expert witness services, and performance tracking. The approximate annual sample volume is 5,500.

State of Missouri

DDC was recently awarded the State of Missouri contract in October 2015, which had been held by the incumbent provider since 1992. The current contract is effective until September 2016 with another four (4) years of renewal options extending to the year 2020. DDC provides the full spectrum of paternity testing services including, but not limited to, appointment scheduling, sample collection and transportation, laboratory testing, issuing genetic test reports, invoicing, customer service, expert witness services, and performance tracking. The approximate annual sample volume is 17,000.

Office of the Attorney General for the District of Columbia

DDC was awarded the contract to perform parentage testing for Washington DC Child Support and the Superior Courts in November 2013. DDC provides the full spectrum of paternity testing services including, but not limited to, appointment scheduling, sample collection and transportation, laboratory testing, issuing genetic test reports, invoicing, customer service, expert witness services, and performance tracking. The contract spans one year with four one-year extensions, ending in November 2018. Annual testing volume is approximately 2,000 samples.

Louisiana Department of Social Services, Office of Family Support

DDC is one of two providers of genetic paternity testing services to the State of Louisiana. We have professionally managed the southern portion of this state contract since 2012. Services provided include but are not limited to, appointment scheduling, sample collection

and transportation, laboratory testing, issuing genetic test reports, invoicing, customer service, expert witness services, and performance tracking. DDC also provides specimen collection services at the parishes being serviced by DDC. Approximate annual sample volume is 4,500. DDC was recently awarded the new contract that resulted from the RFP process that began in January 2016 extending through 2018.

This contract initially came to DDC in the Summer of 2012 after being with our corporate lineage (Orchid Cellmark and ReliaGene Technologies). Original testing services started in July 1992. After working with DDC through the remainder of the post-transition contract (2012-2015), the State of Louisiana selected DDC for a new contract term in 2015 (which runs through 12/31/2018).

State of West Virginia

DDC was recently awarded the contract to perform parentage testing for the State of West Virginia in August 2015. DDC provides the full spectrum of paternity testing services including, but not limited to, appointment scheduling, sample collection and transportation, laboratory testing, issuing genetic test reports, invoicing, customer service, expert witness services, and performance tracking. DDC provides a collection site and specimen collector for each of the 55 counties, per the contract requirements. DDC successfully implemented this project with a condensed timeline. The contract spans three years until August 2019. Annual testing volume is approximately 5,000 samples.

2. Provide your laboratory's experience, performed under AABB accreditation, with California Child Support casework and trials.

Response: DDC has a strong presence in the State of California and serves as the current provider of paternity testing services for Fresno County. In addition, DDC is a current provider of genetic parentage testing services to many jurisdictions throughout the State of California. The following listing depicts DDC's experience providing DNA paternity testing services in California and cases within the State of California in which our doctoral staff has provided expert testimony services.

Agua Caliente Band of Cahuilla Indians (ACBCI)

5401 Dinah Shore Dr.
Palm Springs, CA 92264

Fresno County DCSS

2220 Tulare St., Suite 310P
Fresno, CA 93721

Fresno County DSS

2011 Fresno St., Suite 105
Fresno, CA 93721

Hoopa Valley Tribal Enrollment
P.O. Box 1348
Hoopa, CA 95546

Lake County Child Support Enforcement
3980 Gard St.
Kelseyville, CA 95451

Los Angeles County CSSD
5500 Southeastern Ave.
Commerce, CA 90040

Plumas County Child Support Enforcement
522 Lawrence St.
Quincy, CA 95971

San Francisco County DHS-CPS/HSA
170 Otis St.
San Francisco, CA 94120

San Francisco County DCSS
617 Mission St.
San Francisco, CA 94105

San Luis Obispo County Child Support Services
1200 Monterey St.
San Luis Obispo, CA 93401

Expert Testimony in California:

Dr. Michael Baird:

- State of California vs W. Cathcart: 11/21/89
- State of California vs D. Harris: 12/14/89
- State of California vs C. Golden: 2/1/17

Dr. Debra Davis:

- State of California vs. Gary Lee, 9/6/14

Dr. Julie Heinig:

- State of California vs. T. Littlefield: 10/27/11

- 3. Contractor shall maintain an organizational structure and sufficient staff to administer and supervise all of the functions for which they are responsible under the terms of this RFQ and all applicable laws. Provide the names and resumes (curriculum vitae) of key**
-

staff members.

Response: As the incumbent provider of these services to Fresno County for the past six (6) years, DDC can ensure a seamless transition to the new contract with no interruption in service. All personnel currently assigned to perform duties under this contract with the County are already trained and qualified to properly execute the required scope of services. Thus, by selecting DDC to provide these services under the new contract, we can offer Fresno County seamless genetic testing services for the establishment of paternity. Unlike other laboratories that would require an extensive and cumbersome implementation period to establish their operations for the January 1 contract start date, DDC is prepared to continue to provide the County with superlative genetic testing services. DDC has proven over many years the ability to collect and analyze genetic material, work as a liaison between DCSS and DSS, exceed expectations for laboratory turnaround times, and provide accurate invoicing. Thus, there will be no risk in compromising the continuity of the Fresno County's genetic testing workflow and operations.

DDC will continue to maintain an organizational structure and sufficient staff to administer and supervise all of the functions and services that will be provided pursuant to this contract in accordance with all applicable laws, standards, and regulations. DDC is currently processing approximately 715,000 samples annually and has the analytical capacity to process more than 1,120,000 samples annually. DDC has more than sufficient capacity, technical, and administrative resources to continue to successfully manage the Fresno County contract. DDC is staffed with highly trained and qualified individuals dedicated to performing all of the technical and administrative areas related to paternity testing.

Key Personnel: The caliber of DDC's staff is outstanding, and our team is one of the most tenured, competent, and experienced in the industry. Many of DDC's senior level staff have been employed with the company for more than a decade and have worked in the field of genetic testing for well over twenty years. Collectively, DDC's key personnel and administrative support team represent over three hundred fifty (350) years of combined experience providing genetic family relationship testing services. All laboratory staff have passed extensive background clearance and are required to participate in internal and external training and proficiency programs and continuing education each year. These positions are considered key to contract implementation, facility operations, and the provision of services to Fresno County. The following section provides a brief bio for each individual, highlighting his/her responsibilities and experience. Detailed Curricula Vitae are provided as Attachment #1.

Kathy Leis, Vice President, Operations

Ms. Leis joined DDC in July 2012 after completing the oversight of the divestiture of Orchid Cellmark's IV-D government paternity business. She was employed at Orchid Cellmark for over 27 years, with over 32 years of laboratory experience. She has a Bachelor of Science degree in Medical Technology and is certified by the American Society of Clinical Pathologists. She has been directly involved in all aspects of paternity testing and is well

versed in managing contracts. Ms. Leis not only has strong skill sets and experience in contract management, but also gained hands-on experience in all components of testing, including specimen collection and expert witness testimony as well as being intimately involved in quality processes. She has worked at the bench level in the laboratory, performed specimen collections, and has managed customer service. This allows her to better understand issues that arise in the field, as well as anticipate, prevent, and solve problems.

Ms. Leis is responsible for overseeing the daily operations and for ensuring that both the laboratory and administrative operations meet or exceed the contractual requirements of Fresno County. She has extensive experience since the mid-1980's working with Child Support, private industry and many other governmental agencies. She routinely participates in quarterly meetings to assess contract performance and is involved in all aspects of contract implementation and monitoring within the facility to ensure test results are issued accurately and in a timely manner. Other professional positions held include the following: Director of Operations, Orchid Cellmark (formerly GeneScreen), 1998-2012, Paternity Laboratory Supervisor and Technologist, Orchid GeneScreen, 1985-1997, Staff Medical Technologist, St. Luke's Medical Center, 1984-1985, Staff Medical Technologist, Kettering Medical Center, 1981-1983 and Phlebotomist, Kettering Medical Center, 1979-1981.

Michael Baird, Chief Scientific Officer

Dr. Baird, DDC's Laboratory Director and Chief Scientific Officer, has decades of experience in the field of DNA testing and has personally reviewed over 180,000 family relationship cases. In 1982, Dr. Baird was at the forefront of DNA testing as part of a team that pioneered identification through DNA and then offered it commercially. In 1987, he was the first DNA expert to testify in a U.S. court case and has since testified in hundreds of court cases involving DNA relationship testing and forensics. Dr. Baird has written and published numerous articles and manuscripts in the field of DNA technology, paternity testing, and forensics. Dr. Baird has appeared on several national TV shows that feature DNA testing. NBC News hired him as their on-air DNA expert during the OJ Simpson trial. He has also been interviewed on Larry King Live, Nancy Grace, Court TV, and others.

Dr. Baird spent 7 years as Chairman of the Parentage Testing Accreditation Program Unit for the AABB. This organization oversees, sets rules and regulations, and accredits DNA paternity testing laboratories in the United States and abroad. Dr. Baird has continued to be an active member of the AABB. In January 2008, he was appointed by the AABB Board of Directors as Chair of the Relationship Testing Standards Program Unit. He was in charge of rewriting the *Standards for Relationship Testing Laboratories*, 9th Edition and the *Guidance Document*, which became effective in January 2010. He continues to maintain his position with the AABB. Dr. Baird is currently serving the AABB as the Chairman of the Paternity Accreditation Standards Committee.

Dr. Baird also presides as the President of HITA, the Human Identity Trade Association. This organization is a nonprofit entity dedicated to advancing the human identity testing

industry and increasing public awareness of forensic and parentage DNA testing products and services.

Led by Dr. Baird, our laboratory staff consists of twelve (12) PhD-level Directors and a staff of Bachelor-degreed technologists and technicians. We have a dedicated and experienced on-site Quality Assurance Manager, Dr. Todd Lewis, who oversees the laboratory's quality system and conducts monthly internal audits. Our Laboratory Directors and professional staff have combined experience of over three hundred fifty (350) years in DNA technology, paternity testing, forensic testing, immunogenetics, and genetic studies.

DDC's laboratory staff has performed testing on over nine million five hundred thousand (9,500,000) genetic samples. The twelve (12) Laboratory Directors all hold doctorate degrees in biological and/or forensic science and are qualified experts to perform DNA biological relationship testing. All DDC Laboratory Directors perform data and case review, evaluation, and processing.

Debra Davis, Ph.D., Laboratory Director

Dr. Davis joined DDC in June 2012 and had been employed with Orchid Cellmark for over 13 years, serving as the Laboratory Director and previously as an Associate Laboratory Director. Dr. Davis assumed the role of Laboratory Director at Orchid Cellmark-Dayton in June 2007 and has more than 22 years of experience in the field of Molecular Genetics. She has a Ph.D. in Biomedical Sciences with a concentration in Molecular Genetics from Wright State University in Dayton, Ohio, an MBA in Finance, and a Bachelor of Science degree in Biology from the University of Cincinnati. She has over 6 years post-doctoral experience at the University of Cincinnati during which time she performed independent research using Polymerase Chain Reaction (PCR), Restriction Fragment Length Polymorphism (RFLP), cloning, and transgenic techniques.

Dr. Davis is currently responsible for reviewing and interpreting test results, reviewing paternity case files, and providing technical assistance. Dr. Davis is fully qualified to direct AABB accredited testing for the purposes of relationship and identity determination, and over her career years has had the opportunity to review well over 233,000 family relationship cases. She received her Certificate of Qualification from the New York State Department of Health as a Laboratory Director for Parentage/Identity Testing in 2004. She received specialized Training in Basic Population Genetics and Forensic Statistics in 2003. She has been a member of the AABB since 1998, and has been part of the AABB Assessor Program for Relationship Testing since 2007.

Dr. Davis has a strong commitment to all aspects of paternity and relationship testing, including assisting in the education and understanding of testing processes and outcomes. Dr. Davis is available to answer all questions that might arise involving paternity and relationship testing and also serves as an expert witness. Dr. Davis has testified in many diverse trials throughout the country. Dr. Davis has been an invited speaker at the Illinois Family Support Association's Twentieth Annual Members' Meeting and the Louisiana

Support Enforcement Association 2009 Training Conference Workshop. Further, Dr. Davis is thoroughly committed to advancing the education and advancement for youth and is a past member of the Ohio Biotech Prep Advisory Board and the Sinclair Community College Biotechnology Advisory Board located in Dayton, Ohio. In 2009, Dr. Davis provided training in relationship testing for both Medical Technologist Students from Wright State University, Dayton Ohio and Biotechnology tract students from Centerville High School, Centerville Ohio.

Other professional positions held include: Postdoctoral Research Fellow, Division of Cardiology, University of Cincinnati Medical Center, 1996-1998, and Postdoctoral Research Assistant, Department of Internal Medicine, University of Cincinnati Medical Center, 1993-1996.

John Peterson, Ph.D., Laboratory Director

Dr. Peterson has served as Laboratory Director and Assistant Laboratory Director at DDC for eleven (11) years. He received his Ph.D. in Biomedical Sciences, and his Bachelor of Science degree in Biological Sciences. Dr. Peterson is involved in final case review, as well as the review and interpretation of raw data for all paternity and relationship testing cases. He has personally evaluated over 410,000 family relationship cases. He also works closely with the Quality program to ensure that quality standards are met. Other professional positions held include: Forensic Scientist with the Marion County Forensic Services Agency in Indianapolis, Indiana (2007-2012) where he was responsible for the forensic analysis of DNA evidence and providing expert witness testimony. Dr. Peterson also serves as a DNA Auditor with National Forensic Science Technology Center. Dr. Peterson is a member of the AABB, the ASM (American Society for Microbiology), and the AAFS (American Academy of Forensic Sciences).

Joy Johnson, Ph.D., Assistant Laboratory Director

Dr. Johnson joined the DDC team as an Assistant Laboratory Director in 2012 after having been employed at Orchid Cellmark for over 12 years as an Associate Laboratory Director. Dr. Johnson's graduate work in microbial genetics involved the creation and characterization of enzyme secretion mutants through DNA transformation and transposition studies. Her postdoctoral work, through the EPA, included studies with DNA characterization and hybridization studies of microbes capable of degrading components of Agent Orange. She was active in biotechnology professional groups and helped to establish a molecular biology laboratory. Dr. Johnson also participated in research for a period of time at the VA Medical Center including PCR analysis and oligonucleotide synthesis. She has also taught as an adjunct faculty member in the Biology Department at Sinclair Community College. Other professional positions held include: Research Associate, Wright State University, 1997-1999, and Research Microbiologist, Department of Veterans Affairs Medical Center, 1988-1997. Dr. Johnson has personally evaluated over 316,000 family relationship cases.

Dr. Yong Ji, M.D., Ph.D., Assistant Laboratory Director

Dr. Ji recently joined DDC in 2014 as an Assistant Laboratory Director. She came to DDC with twenty-five (25) years of experience in scientific and medical research with twenty peer-reviewed scientific papers published in prestigious cardiovascular and physiology journals. She has twenty years of research experience with great achievements in the field of cardiovascular and lipid metabolism and strong technical skills covering the areas of molecular biology, biochemistry, and physiology, including gene manipulation, DNA, RNA analysis, kinetic analysis of enzyme, cell culture, Western blot assay of protein and protein phosphorylation, and a series physiological assays (e.g. cardiovascular and digestive function) in animal models. Dr. Ji is involved in final case review, as well as the review and interpretation of raw data for all paternity cases. Dr. Ji has personally evaluated over 108,000 family relationship cases.

Dr. William Sun, Ph.D., Assistant Laboratory Director

Dr. Sun recently joined DDC in 2015 as an Assistant Laboratory Director. Dr. Sun brings eighteen years of laboratory and research experience in molecular biology, having held positions in Canada, China, and now the United States. He earned his Ph.D. in Molecular Biology from the University of Alberta. Dr. Sun is involved in final case review, as well as the review and interpretation of raw data for all paternity cases. Dr. Sun has personally evaluated over 124,000 family relationship cases.

Dr. Guangyun Sun, Ph.D., Assistant Laboratory Director

Dr. Sun recently joined DDC in 2015 as an Assistant Laboratory Director. Dr. Sun brings over twenty years of laboratory and research experience in molecular genetics both in China and the United States. He earned his Ph.D. in Forensic Biology and Molecular Genetics from the West China University of Medical Science. He has co-authored over fifty scientific publications. Dr. Sun is involved in final case review, as well as the review and interpretation of raw data for all paternity cases. Dr. Sun has personally evaluated over 126,000 family relationship cases.

Dr. Jessica Dade, Ph.D., Assistant Laboratory Director

Dr. Dade joined the DDC team as an Assistant Laboratory Director in 2016. She is involved in final case review, as well as the review and interpretation of raw data for all paternity cases. Other professional positions held include: Postdoctoral Fellow, Department of Molecular Genetics at the University of Cincinnati. Dr. Dade has personally evaluated over 47,000 family relationship cases.

Dr. Priya Kumar, Ph.D., Assistant Laboratory Director

Dr. Kumar joined the DDC team as an Assistant Laboratory Director in 2017. She is involved in final case review, as well as the review and interpretation of raw data for all paternity cases. In addition to two Bachelor's degrees, Dr. Kumar holds a Master's Degree in Zoology from the University of Delhi and earned her Ph.D. from Miami University in Ohio. Other professional positions held include: Postdoctoral Research Fellow, Division of Endocrinology at Cincinnati Children's Hospital Medical Center, and Adjunct Assistant

Professor at the University of Cincinnati. Dr. Kumar has personally evaluated over 41,000 family relationship cases.

Dr. Alejandra Gutierrez, Ph.D., Assistant Laboratory Director

Dr. Gutierrez joined the DDC team as an Assistant Laboratory Director in 2017. She is involved in final case review, as well as the review and interpretation of raw data for all paternity cases. In addition to two Bachelor's degrees, Dr. Gutierrez earned her Ph.D. in Biochemistry and Microbiology from the National University of Cordoba in Argentina. Other professional positions held include: Laboratory Supervisor of Sorenson Genomics, and Principal/Research Scientist positions at Cytozyme Inc. and the University of Utah. Dr. Gutierrez has personally evaluated over 44,000 family relationship cases.

Dr. Jessica Wagoner, Ph.D., Assistant Laboratory Director

Dr. Wagoner joined DDC as an Assistant Laboratory Director in 2017. She is involved in final case review, as well as the review and interpretation of raw data for all paternity cases. In addition to her Bachelor of Science degree in Molecular Genetics, Dr. Wagoner earned her Ph.D. in Molecular Biology and Genetics from Cornell University. Other professional positions held include: Research Assistant positions at both Ohio State University and Cornell University. Dr. Wagoner has personally evaluated over 32,000 family relationship cases.

Dr. Julie Heinig, Ph.D., Assistant Laboratory Director

Dr. Heinig joined DDC in 2003 as an Assistant Laboratory Director and Forensic Technical Leader and is in charge of the forensic laboratory operations at DDC. In 2001 she received her Ph.D. from the University of Toronto in the area of Molecular Endocrinology and Development and has published several scientific papers.

She oversees the operation and quality of DDC's forensic department and performs DNA testing on crime scene evidence. In addition, she also performs professional case review and consultation. Dr. Heinig designed and prepared DDC's forensic laboratory for accreditations by the prestigious FQS-I (Forensic Quality Services-International) / ISOIEC 17025 and ASCLD/LAB-*International* (American Society of Crime Laboratory Directors/Laboratory Accreditation Board), setting up the laboratory procedures and performing validation studies.

Before joining DDC, Dr. Heinig spent 5 years as a Senior Forensic Scientist/DNA Analyst at the Cuyahoga County Coroner's office, where she performed testing on the highly publicized Dr. Sam Sheppard case. Dr. Heinig has appeared as an expert in hundreds of court cases testifying on her own casework and that of other scientists. She has extensive experience in processing crime scenes.

Dr. Heinig is an experienced lecturer, having hosted seminars and given lectures at the Coroner's office and off-site to various groups including attorneys, physicians, and universities. She has also conducted crime scene evidence collection workshops for law

enforcement agencies. Dr. Heinig has over 16 years of experience in the field of genetic testing.

Chris Kraemer, Director, Laboratory Operations

Mr. Kraemer joined DDC in 1997 as a Laboratory Technologist. He received his Bachelor's Degree in Biology from the University of Cincinnati. He has 21 years of experience in the DNA testing field. Until recently Chris was responsible for oversight of the laboratory and data analysis departments, and for the overall efficiency of the DNA extraction, amplification, and data analysis areas of the laboratory. He has co-authored several articles in the Journal of Forensic Science. Articles include: "Distribution of HUMACTBP2 (SE33) alleles in North American populations;" "Specificity of sibship determination using the ABI Identifiler multiplex system;" and "Distribution of Penta B, Penta C, and Penta E alleles in the Asian, Black, Caucasian, and Hispanic populations." Most recently he has taken on the role of managing the corporate compliance and safety programs at DDC. Chris is providing the leadership and coordinates with functional business managers to ensure regulatory & safety compliance. He ensures that the company is aware of and is taking measures to comply with all relevant laws and regulations. He reviews strategies, structures, and processes and confirms the company is operating according to specific rules and regulations.

Dr. Todd Lewis, B.S., MBA, Ph.D, Quality Assurance Manager

Dr. Todd Lewis joined DDC in 2018 as Quality Assurance Manager. He received his Bachelor's degree in Biology, MBA in Healthcare Administration and Ph.D. in Molecular Genetics from Wright State University in Ohio. He has over 15 years of management and quality assurance experience. Previous to joining DDC, Dr. Lewis audited clinical trials for FDA, CFR and GCP regulatory compliance. Dr. Lewis is responsible for maintaining the laboratory accreditations for AABB, ANAB, CAP, CLIA, ISO/IEC 17025, NATA, NYSDOH and SCC. He develops and maintains the quality management system and monitors its performance. He also monitors the competency and performance of employees within their scope of work and ensures that processes are performed according to specified procedures, including quality control and reporting.

Laboratory Staff Qualifications and Training

DDC employs only degreed individuals to perform actual laboratory assays and has an extensive training program in place for all laboratory personnel. All laboratory personnel have at a minimum either an Associate's degree in Science with on-site supervision or a Bachelor's degree in Arts and Science. DDC's training modules cover all aspects of testing from specimen collection to reporting of results. Instructional systems are designed and developed to produce a variety of education and training programs (facilitated workbook activities, audio, computer-based training lessons and simulations) or to adapt existing materials to meet the operational needs of the laboratory. Laboratory staff members are required to complete a documented training program and demonstrate competency in their specific area of testing before performing any testing. In addition, DDC performs routine direct observation assessments of the laboratory technologists in the form of practical, written, and problem solving evaluations to ensure that all laboratory employees maintain a

high level of competency. DDC has multiple laboratory departments and runs a multiple-shift operation. This scheduling operation as well as extensive cross training between departments allows for maximum flexibility to manage workload fluctuations while maintaining excellent report turnaround time and job versatility.

Quality Control

DDC has implemented a quality assurance program that exceeds the standards and guidelines set forth by the AABB, NYDOH (New York State Department of Health), ISO (International Standards Organization), CAP (College of American Pathologists) and several other accrediting organizations. The DDC Quality Manual describes our extensive quality policies and procedures covering all aspects of testing including document control, staff competency, proficiency testing, and confidentiality, to ensure the highest standards in DNA testing.

DNA Diagnostics Center is the only DNA testing laboratory that performs every test twice, testing every genetic system in duplicate, not just a subset of the genetic markers. This process is more expensive and labor-intensive, however it is the most effective quality assurance program that ensures our testing is of the highest reliability and accuracy. This Dual Process™ is voluntary and far exceeds the industry standard. Every sample is independently logged-in, extracted, processed, and analyzed twice by two separate laboratory teams. The two sets of results are reviewed by at least two DNA experts prior to a final review by a Ph.D. Laboratory Director. DDC's standard operating procedures and protocols control all aspects of our operations, including but not limited to, laboratory testing, non-conformances, confidentiality, training, safety, customer/supplier issues, and document control. In addition, we participate in external proficiency testing multiple times each year and conduct internal audits every year. Results of proficiency testing, internal audits, and external on-site inspections are used in developing subsequent preventive actions to further improve our quality system.

Additional Key Staff (Non-Laboratory)

Lori Neff, Director, Government Contracts

Ms. Neff is responsible for directing and maintaining consistent policies and procedures for the government contracts team to include: customer service, interstate/institutional scheduling, specimen collection network, and case processing and reporting while ensuring the highest levels of service, contract compliance, and satisfaction to DDC's customers. Ms. Neff has been involved in the paternity testing industry since 1992 and has served in various roles including Director, Customer Service, Orchid Cellmark (formerly GeneScreen), 2005-2011, Specimen Collection Network Manager, 2002-2005, Bone Marrow Services Coordinator 1997-2002, Team Leader, Laboratory 1992-1997. Ms. Neff has worked directly with hundreds of child support agencies and staff, child protective services, tribal agencies, and other public social service agencies throughout the country that require paternity testing services. Ms. Neff works directly with customers to ensure contract compliance and overall customer satisfaction. She has conducted many self-collection training seminars, web

training, and general presentations for child support and social services staff. Ms. Neff has extensive experience working with subcontracted specimen collection services.

Shauna Ford, Manager, Government Contracts, Customer Service and Scheduling

Ms. Ford has been involved in various aspects of the paternity testing industry since 2005. She came to DDC in 2012 with over 7 years of experience working directly with child support staff and specimen collections. During her time with Orchid Cellmark she worked in case management, customer service, and the specimen collection network. Her previous experience in multiple roles has allowed her to better understand the issues that may arise in the field, as well as anticipate, prevent and solve problems. Ms. Ford has been employed with DDC since 2012 and earned subsequent promotions to Customer Service Team Leader and Manager of Government Contracts Customer Service and Scheduling. She manages the customer service and scheduling teams to ensure that the needs of the customer are the highest priority and all contract and service requirements are met in accordance with DDC procedures. Ms. Ford has trained many child support personnel for self-collections and web training.

Sarah Ballard, Customer Service Account Coordinator

Ms. Ballard has been with DDC since 2012 after having served as a Scheduling Coordinator with Orchid Cellmark since 2009. Ms. Ballard will continue to serve as the primary day-to-day representative for Fresno County. She is responsible for responding to account inquiries, providing information regarding case status, explaining laboratory results, and resolving client concerns so as to ensure the utmost in customer satisfaction. DDC's customer service team is familiar with all contract requirements so that any representative can assist callers and handle inquiries.

Kellie Bunch, Team Leader, Scheduling

Ms. Bunch has been with DDC since 2007 and has over 9 years of scheduling experience, including experience with Fresno County. She has coordinated thousands of requests across the world. Ms. Bunch was promoted to Senior Team Member, then to Team Leader in 2015 and is well versed in all DDC contract requirements for scheduling. She has extensive experience and thorough knowledge with institutional collections.

Jon Strong, Chief Information Officer

Mr. Strong is an accomplished executive with experience in leadership, consulting and information technology, with more than 35 years in strategy, re-engineering, development, and transformation. While successfully leading large mission critical programs and transformations for companies from startups through \$60 billion global enterprises, his deep understanding of the underlying technology combined with business savvy fosters alignment of the most technically demanding challenges with business requirements. He has exceptional strengths in analysis, project, and program planning and management, organizational optimization, and the delivery of technology-based business solutions. Jon has served in virtually every role in Information Technology, from developer through architect, head of portfolio, CTO and CIO, and has also built and led consulting organizations for some

of the largest professional services firms. Mr. Strong is Chief Information Officer at DDC, leading IT operations and development, as well as creating and executing the roadmap for evolution into the next generation of technology based and enhanced business solutions. Jon holds an MBA in management and finance from Drexel University, a Masters in Psychoanalysis from the Philadelphia School of Psychoanalysis and a Bachelors in Psychology from the University of Pennsylvania.

Lauren Elkins, Supervisor, Specimen Collection Network

Ms. Elkins is responsible for the day-to-day management and coordination of the specimen collectors. As part of DDC's Specimen Collection Network, she has been responsible for locating collection facilities, recruiting, and training specimen collectors. In addition, she coordinates and manages specimen collection schedules and back up contingency plans for all of DDC's government contract clients. She is responsible for monitoring the quality of collections, ensuring that all collectors and sites are adequately supplied with all materials required for specimen collections, processing collector payroll, and collecting DNA samples as needed. Ms. Elkins has additional Specimen Collection Network resources that also assist as needed.

Angelina Perez, Crystal Carreon, Lori Perez, Phlebotomists and Specimen Collectors

These individuals are responsible for performing specimen collections for Fresno County. They are required to maintain all DDC specimen collection standards and to follow all chain of custody protocols. They ensure the site has adequate coverage to perform in-county collections as well as jail collections on an ongoing basis. Phlebotomists and specimen collectors must have the ability to read, analyze, and interpret instructions, correspondence and contractual requirements. They are also required to recognize problems and respond to emergencies as well as have the ability to solve problems and deal with the different variables that arise while providing DNA collections. It is imperative that collectors pay close attention to detail and understand the impact the specimen collection process has on the outcome of testing. Collectors must have the ability to effectively present information to and respond to requests and questions from donors, customers, supervisors, and other child support employees. DDC recognizes that the specimen collector represents the company, has direct interaction with every client, and is one of the most important links between the client and laboratory. Specimen collectors must project a professional image, have confidence to perform their job competently, and demonstrate skill and compassion, all of which instill confidence in our clients.

DDC's company profile and key staff biographies provide a snapshot of the years of experience in the performance and implementation of comprehensive genetic testing services across a wide spectrum of satisfied clients. These skills, capabilities, and experience are applied to each new contract and have proven to be a successful roadmap in the execution of successful business transitions for many of our government clients. DDC's experienced contract management team will ensure that all services provided meet or exceed the County's expectations.

4. Bids must state method of testing to be performed. Include:

- a) All DNA probes used
- b) Source of DNA probes used
- c) Ownership of national database
- d) Size of isolated national database
- e) Ethnicity by percentage of national database (The Central Valley has a large Asian population that does not exist through the United States)

Response: The ability to perform scientifically valid genetic testing that conforms to industry guidelines and the ability to defend its results in court if necessary are essential in the execution of this contract. DDC is committed to providing every client with accurate, thorough, and expedient paternity test results. DDC provides its clients with DNA testing performed using PCR (Polymerase Chain Reaction) technology and STR (Short Tandem Repeat) markers for routine analysis. DDC has been using STR technology since 1997, having conducted testing on over nine million five hundred fifty thousand (9,500,000) samples to date. This technology is approved by the AABB and is by far the most prevalent DNA testing methodology currently in use by AABB accredited laboratories.

All STR markers employed by DDC for its routine parentage testing are commercially available, and their performance characteristics are well understood, reproducible, validated, and accepted by the scientific and legal communities. DDC will utilize either the Promega Fusion Kit or Life Technologies Global Filer Kit as the initial routine testing battery. Both of these kits are fully validated and offer twenty-four (24) loci that are common and informative allowing for greater discriminatory power than many other testing batteries. Additionally, they have rapid thermal cycling protocols, which results in reduced turnaround times and enables the focus of the laboratory to be on more value added activities. When necessary, DDC has additional systems that will be used for extended testing. In total, DDC has thirty-six (36) validated and commercially available STR systems (including Amelogenin) which will be deployed as necessary to ensure that tests completed for Fresno County will achieve a guaranteed minimum probability of paternity of 99.999% for standard cases though the majority of standard cases will have an average probability of paternity of 99.999999% or average combined paternity index of one billion to one (1,000,000,000:1). The available STR markers for use in the paternity testing panel are identified in the table below:

D3S1358	D8S1179	D18S51	CSF1P0	D13S317
D5S818	D21S11	TP0X	FGA	F13B
D7S820	D16S539	LPL	TH01	vWA
Penta E	Penta D	D2S1338	D19S433	Amelogenin
F13A01	FESFPS	Penta C	D8S1115	D6S474
D22S1045	D2S441	SE33	D10S1248	D9S1122
D17S1301	D9S2157	D3S4529	D14S1434	D1S1656
D12S391				

Dual Process™

DDC was commended by the AABB in 2004 for being the first laboratory to truly offer double blind testing. DNA Diagnostics Center is the only DNA testing laboratory that performs every test twice, testing every genetic system in duplicate, not just exclusions, and not just a subset of the genetic markers. Our Dual Processing™ procedures ensure that each sample is tested in duplicate by two different teams working independently. Results from the two groups are compared upon completion of the analysis and must be in agreement for validation of the testing. This expensive and labor-intensive process is the most effective quality assurance program that ensures our testing is of the highest reliability and accuracy. This Dual Process™ is voluntary and far exceeds the industry standard. Every sample is independently logged-in, extracted, processed, and **all genetic systems are analyzed twice** by two separate teams. The two sets of results are reviewed by at least two DNA experts prior to a final review by a Ph.D. Director. Other laboratories provide duplicate testing, yet they only perform this testing on fewer than five (5) genetic markers. To the best of our knowledge, **DDC is the only laboratory that performs duplicate testing on all genetic marker systems that are analyzed.** This double blind testing on each sample ensures rapid turnaround times because there is no delay in repeating excluded alleged fathers. The standard battery and the additional validated systems will easily result in meeting the expected probabilities of paternity for alleged father inclusions and a minimum of three exclusions for alleged fathers that are not the biological father. Fresno County will continue to have a high level of confidence that the correct samples were tested and reported.

DDC also has the capability to perform mitochondrial DNA (mtDNA) testing, Y-Chromosome, and X-Chromosome STR testing for complex and challenging cases. In addition, DDC can extract DNA from many different types of biological samples including standard buccal cheek swabs and blood samples as well as other tissue samples such as fingernail, bone, teeth, and hair root samples. DNA testing will be performed initially unless other testing methodologies are deemed necessary.

DDC maintains national databases composed of thousands of genotypes from unrelated individuals of Caucasian, Black, Hispanic, Asian, and Native American ethnic backgrounds. The database sizes for the most commonly used STR systems range from 1,500 to 25,000 alleles, representing database sizes comprised of 750 to 12,500 unrelated individuals. All databases representing the loci examined are of adequate size to provide statistically significant results. Ethnicity is provided by self-identification. If tested parties are of mixed ethnic background or do not designate an ethnic background, calculations are performed using the existing databases adjusted to reflect the composition of the population based on the most recent U.S. Census Data. The databases used by DDC have been validated by statistical comparison to peer-reviewed scientific published databases. FBI-published databases can be utilized for calculations of more specific ethnicities; i.e. Japanese, Korean, Vietnamese, etc. Asian populations. Participation in the CAP external proficiency program indicates that the paternity indices calculated by DDC are within acceptable limits based on consensus results, which verifies the validity of our databases. The national database is comprised of the following ethnicities by percentage:

42%	Caucasian
27%	Hispanic
18%	Black
10%	Asian
3%	Native American

5. Provide a statement regarding your ability to provide services to varied ethnic populations.

Response: DDC has successfully provided genetic paternity testing services to Fresno County and its varied ethnic resident population since 2012. Having processed nearly 2,500 cases for Fresno County DCSS and DSS with a typical average probability of paternity or power of exclusion of 99.999999%, DDC has proven its capability to analyze the full range of cases for all ethnic populations in Fresno County. DDC utilizes databases composed of thousands of genotypes from unrelated individuals of Caucasian, Black, Hispanic and Asian ethnic backgrounds. If individuals are of mixed ethnic background or do not designate an ethnic background, the most conservative paternity index calculation is obtained by using the highest allele frequency for each system among Caucasian, Black, Hispanic and Asian allele frequency distributions.

6. Indicate in the bid whether the organization has conducted, documented, and published validation studies on their databases and biostatistical methods to ensure success on meeting California Kelly-Frye challenges. If so, copies of said studies are to be submitted with the bid.

Response: The databases used by DDC have been validated by statistical comparison to peer-reviewed scientific published databases. Participation in the CAP external proficiency program assures that the paternity indices calculated by DDC are within acceptable limits based on consensus results, which verifies the validity of the databases DDC utilizes. DDC has also performed internal validation studies on our databases and bio-statistical methods which have been reviewed by AABB assessors and found to be appropriate.

In addition, as one of the most accredited and certified laboratory testing facilities in the United States, DDC's parentage testing is in strict accordance with the current edition of the AABB's *Standards for Relationship Testing Laboratories*. DDC has maintained its AABB accreditation since 1996. In addition to our AABB accreditation, DDC holds additional accreditations and certifications from the following organizations: ACLASS, American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB), New York State Department of Health (NYDOH), Clinical Laboratory Improvement Amendments (CLIA), Standards Council of Canada (SCC), College of American Pathologists (CAP), the Ministry Of Justice (U.K.), and National Association of Testing Authorities (N.A.T.A.-Australia).

DDC supports all the scientific results generated in its laboratory with expert testimony, and our expert witnesses have testified in Frye hearings associated with both paternity and forensic DNA analysis in the past and will comply with all County requests for expert testimony and consultation services. All STR markers employed by DDC for its routine PCR parentage testing are commercially available, and their performance characteristics are reproducible, validated, and accepted by the scientific and legal communities. DDC's genetic testing results have been submitted and accepted in thousands of legal proceedings throughout the country in all levels of court systems from local municipalities to federal courts. We have never encountered an issue with the admissibility of results based on the technologies utilized at our laboratory.

DDC'S Chief Science Officer, Dr. Michael Baird, has testified in several Frye Hearings in California related to database and statistical issues. In addition, the following published studies are listed below. Copies of these reference materials are provided in Attachment #2.

Reid, T., D. Ingala, C. Kraemer, W. Dage, C. Dieckhoner, J. Forman, D. Hodge, K. Johnson, C. Oatman, H. Schlotman, C. Schuh, and M. Baird. 2003. Distribution of HUMACTBP22 (SE33) Alleles in Three North American Populations. Journal of Forensic Sciences. 48:1422-1423.

Peterson, J. W., T. Reid, C. Kraemer, D. Ingala, M. Baird, S. Lee, and R. Lee. 2005. Distribution of Penta B, Penta C, and Penta E Alleles in Asian, Black, Caucasian, and Hispanic Populations. Journal of Forensic Sciences. 50:966-968.

7. Provide the proposed day or days the draws/samples are to be completed/obtained, and specimen requirements.

Response: As the current provider of genetic paternity testing services for Fresno County, DDC proposes to maintain the current collection schedule of every Tuesday from 8:00 am to 5:00 pm and every other Thursday from 8:00 am to 11:30 am. The RFQ states these collections are to occur in the afternoon, but are currently scheduled during the morning hours noted above. DDC plans to continue to retain the services of Angelina Perez, Crystal Carreon, and Lori Perez as the specimen collectors for Fresno County. All are experienced and have performed collections in Fresno County for a number of years. They are readily able to provide back-up services for each other in the event of an emergency. DDC is in frequent communication with our specimen collectors, and we have promptly made special arrangements to coordinate mobile or urgent jail collections. Should additional times and days be required due to increased testing volume, DDC will work with Fresno County to meet the needs of their clientele. DDC will continue to provide collection services in Fresno County at the B. F. Sisk Courthouse, and will continue to collect specimens at other locations as necessary (i.e., jails, hospitals, morgues, etc).

DDC will collect specimens from each individual authorized by Fresno County. DDC

requires that all specimens are collected in accordance with AABB requirements and that strict chain of custody protocols are followed. The vast majority of samples that will be collected are buccal swab specimens, though special arrangements can be made for venous blood collection by a phlebotomist.

DDC recommends genetic sample collection using buccal swabs, and this collection format will continue to be the primary method used for this contract. Buccal swab specimens are obtained by using cotton-tipped swabs to collect epithelial cells by gently stroking the lining of the mouth. These cells contain the DNA required to perform parentage testing and other human identity testing protocols. Obtaining DNA samples with buccal swabs is painless, non-invasive, and equally if not more reliable than DNA testing using blood. The buccal swab method is especially helpful for cases involving newborns, young children, and individuals who have undergone bone marrow transplants or recent blood transfusions. Four (4) swabs are collected from each individual to be tested. Two (2) swabs are used for the initial testing, and the two additional swabs are stored intact in the event additional testing is required in the future.

For buccal swab collections, DDC will provide all specimen collection personnel with complete kits (containing color-coded envelopes, chain of custody documents, disposable gloves, instant camera and film, fingerprint pads, and overnight shipping materials (courier envelopes and pre-paid air bills). Detailed procedures are provided in DDC's Specimen Collection Manual and are described below:

1. Identification of Individuals: DDC will ensure that proper photo identification is presented at the time of specimen collection. Adult parties must provide government-issued photo identification, which may include a driver's license, military ID, passport, or other acceptable form of identification. The custodial parent/legal guardian of the child(ren) is also instructed to bring a birth certificate. After the validity of the identification is verified by the specimen collector, the identification number is recorded on the Client Identification/Chain of Custody form along with social security numbers and dates of birth.
2. Completion of the Client Identification/Chain of Custody Form: The specimen collector will legibly complete this document, including the following information:
 - a) County case number and docket number (if applicable)
 - b) Name of requesting agency
 - c) Collection site information (facility name and address)
 - d) Names of all parties in the case, even if all parties are not collected at the same time
 - e) The Sample Collector's Statement on the back of the form, indicating date and time of collection, in addition to the collector's name and signature
 - f) Race of mother and alleged father
 - g) Sex of child

- h) Dates of birth for all parties
 - i) Social Security Numbers for all parties (if available)
 - j) Other ID number (government-issued photo identification)
 - k) Transfusion and bone marrow transplant history
 - l) Consent signatures of parties being collected or the guardian for a child being tested.
3. Photograph Parties: The specimen collector will take an instant photograph of all the parties to be collected. If the parties are unwilling to take a picture of all three individuals together, the mother and child will be photographed together and the alleged father(s) separately. The adult parties then sign and date their own and their children's photographs. The collector also initials the photograph(s). Photographs are then attached to the back of the chain of custody form in the space indicated.
4. Take Thumbprints: The specimen collector will have the client press their thumb on the colorless pad and then press the area in the appropriate section on the chain of custody form. The client's right thumb is used unless there is a problem such as an injury or missing digit. If the client's left thumb is used, it is indicated next to the sticker.
5. Collect Specimens: The specimen collector will collect buccal swab samples from one individual at a time per the following protocol:
- A new pair of disposable gloves is used for each client collected to prevent contamination of the sample and to protect the collector.
 - Envelopes are color-coded to minimize the chance of sample switching (yellow for child, pink for mother, or blue for alleged father).
 - The swab packages are opened to expose 2-3 inches of the swab sticks.
 - One swab at a time is removed and the collector will brush the inside of one cheek, vigorously using a twirling motion to obtain epithelial cells. The swab is replaced in its original package, and the process is repeated with the second swab. Two swabs are collected from the opposite cheek. (Total of 4 swabs per client).
 - The swab packages are then placed into the appropriately colored envelope, then sealed.
 - The envelope is labeled with the full name of the party collected, the date, initials of specimen collector, and initials of the collected party. The party whose sample is in the envelope initials the envelope to indicate the sample was properly labeled and that the name(s) match those on the chain of custody documentation.
6. Completion of Materials for Case: The specimen collector will place all of the following items into one tamper-proof package for each case (swab envelopes for parties collected, chain of custody document, judicial or administrative orders).
7. Prepare Shipment: All tamper-proof packages containing case materials that are collected on a particular day are then placed into the shipping pouch provided by the
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overnight courier service. The specimen collector will complete the air bill, attach it to the package, and retain the receipt for tracking purposes.

8. Provide your median and maximum laboratory wide turnaround time.

Response: DDC will continue to deliver paternity testing results well within the median laboratory time frame as specified in the RFQ. Performance for Fresno County will meet or exceed laboratory-wide performance. A notarized paternity testing report, signed by a member of DDC's doctoral staff, which summarizes the genetic testing data and conclusions determined, will be issued to the Fresno County DCSS or DSS in a turnaround time that is well within the specified turnaround time of four weeks from draw date to issuance of report. During calendar year 2018, DDC has delivered testing results in an average turnaround time of 6.3 days from the last sample collection date. Our expedient turnaround time allows for efficiency with which cases will be resolved, reduces costs within the child support system, and also reduces the stress on clients caused by the additional wait time and repeated phone calls from clients to caseworkers.

DDC's laboratory-wide median turnaround time for 2018 has been four to seven (4-7) days from the last sample collection, with all cases being reported well within the four-week requirement. On occasion, a case will require additional or specialized testing and may require additional time, but even those cases have been reported within two to three (2-3) weeks, well within the four-week requirement. For 2018, Fresno County case median turnaround time has been 6.3 days. DDC will continue to monitor and provide expedient turnaround time to Fresno County that meets or exceeds the laboratory-wide median turnaround time.

9. Any special proposed uses of County of Fresno resources and personnel need to be noted.

Response: DDC proposes to continue to utilize the drawing station located at the B.F. Sisk Courthouse, Room # 334. There will be no further use of Fresno County resources or personnel for the completion of services under this contract. DDC will provide alternate drawing locations within Fresno County as required.

10. A list of any special services or access to other experts and resources which the firm maintains for the purpose of this contract need to be noted.

Response: As the current provider of genetic paternity testing services to Fresno County, DDC will continue to offer many value-added services to Fresno County, including the following:

Electronic Result Availability and Website Services

All data regarding partial case and archived samples, case status, and test results is available electronically twenty-four (24) hours per day/7 days per week on DDC's secure web portal

application (<https://contracts.dnacenter.com>) called DDC Direct Connect. DDC's on-line case management and tracking system is a real time interface that provides unlimited access to:

- Case status information
- Information regarding partial cases
- Scheduling and appointment information
- Sample collection data
- On-line case results (paternity test reports)
- Account summary information (statistics)

The secure web portal application also affords DDC's government customers the ability to:

- Download and print paternity test reports
- Schedule genetic testing appointments
- Complete on-line ordering of sample collection kits and supplies
- Complete retest authorizations for previously tested parties
- Download DDC's Specimen Collection Manual
- View DDC's Specimen Collection Training Video
- Perform a multitude of data queries; e.g. reports can be generated of all outstanding partial cases within a specified time period; all cases reported within a specific time period; all samples collected on a particular date, etc.

Access to this web site provides customers with the ability to track and collect performance data on-demand for cases received in our laboratory. Data may be accessed via DCSS/DSS case number, tested party name (first and/or last), and by last four digits of social security numbers. The site provides our customers with the option of an almost paperless and convenient interface with our paternity services division. In addition, DDC will provide real-time email notification that test results are completed, uploaded to the web interface, and ready to be viewed. Authorized Fresno County staff may print a fully completed report ensuring legibility, accuracy and convenience. Like the traditional hard copy report, this electronic report includes the Ph.D.'s signature, report of findings, conclusions, chain of custody documentation, thumbprint, and photographic images of the clients. The user manual for DDC Direct Connect is provided in Attachment #3.

Sample and Data Reuse

For all samples received under the terms of this contract, DDC will continue to store and reuse genetic testing results when requested for determining parentage in subsequent cases. For example, when a second alleged father is to be tested with a mother and child that has previously been tested, DDC will utilize the initial testing results for the mother and child with the testing results obtained for the new alleged father to complete the case. This retest procedure is now commonplace with many state and county child support agencies, and can be accomplished by submitting the request through DDC Direct Connect. DDC will maintain

all testing data records for Fresno County, and will match up a previously tested party in a new case. DDC has an efficient process to complete these requests, and most requests are routinely processed within a few hours of receipt. The previous case numbers and names are validated and then matched and incorporated into the new case. Historically, approximately eight to ten percent (8-10%) of all cases tested for Fresno County involve the reuse or retesting of one or more genetic samples, and DDC utilizes samples and data from as far back as 2009, when the contract was managed by Orchid Cellmark. This data reuse procedure will continue to save Fresno County a significant amount of money if historical data can be utilized for determining parentage in subsequent cases and prevent the necessity to recollect samples.

Expert Witness Services

DDC's highly qualified doctoral staff provides litigation support to our customers, including pre-trial preparation and in-court explanation of genetic paternity testing procedures and subsequent results. DDC's expert witnesses have testified in hundreds of cases and consistently provide clear, accurate testimony. DDC's Chief Scientific Officer, Dr. Michael Baird, Ph.D. was the first DNA expert to testify in a U.S. court using DNA evidence. Since then, he has testified over 500 times in courtrooms throughout the United States. DDC doctoral staff members have many years of combined experience providing expert witness services for both paternity-related and criminal trials. Their technology-specific knowledge, qualifications and experience are highly respected in the industry. DDC's expert witnesses will continue to provide the following services to Fresno County at no additional charge:

- General consultation on paternity analysis;
- Statistical analysis for non-standard paternity cases including avuncular analysis and family reconstruction and all necessary consultation to understand the results;
- Expert testimony for trial and hearings;
- Assist in the cross examination of defense experts;
- Provide written and/or telephone technical consultation;
- Telephonic/video depositions;
- Provide pattern trial questions for expert testimony;
- Assist counsel in preparation for the presentation of scientific evidence at trial and in depositions;
- Fill requests for document production;
- Provide affidavits regarding specific case events;
- Explain difficult to understand case results in layman's terms.

Curricula Vitae for DDC's doctoral staff who will continue to provide expert witness services to Fresno County are provided in Attachment #1 of this response. All DDC Laboratory Directors and Assistant Laboratory Directors are required to have completed a doctoral degree in a biological science in addition to advanced training in genetic testing. All Laboratory Directors at DDC meet these minimum qualifications and requirements and are competent to testify to the theory and practice of current DNA technology as used in the parentage determinations, laboratory procedures, specimen chain of custody, and statistical

analysis and interpretation of test results. In total, the expert witness staff at DDC includes twelve (12) prominent Ph.D.s. that will supply technical consultation and litigation support services. Costs associated with providing expert witness services, including travel, lodging, etc. are included in the all-inclusive per person rate presented in the Cost Proposal.

Quality Control Procedures that Exceed AABB Standards

DDC recognizes that the accuracy of testing results produced in the laboratory is of utmost importance. All samples are handled, processed and analyzed in accordance with validated procedures and in a manner that ensures the accuracy and reliability of test results. DDC has made several investments in its testing process that significantly reduce the risk of sample swapping and other errors. These reduce the incidence of human error, which in the case of paternity testing, often leads to false paternity exclusions. DDC understands that the County wants to minimize the potential for false exclusions and has made many process enhancements to ensure they do not occur. The following is a summary of DDC's comprehensive and stringent quality control procedures, many of which exceed AABB minimum standards.

Dual Process™ (Specimens are Analyzed Twice from Separate Isolations)

DDC was commended by the AABB in 2004 for being the first laboratory to truly offer double blind testing. DNA Diagnostics Center is the only DNA testing laboratory that performs every test twice, testing every genetic system in duplicate, not just exclusions, and not simply a subset of the genetic markers. This process is more expensive and labor-intensive; however, it is the most effective quality assurance program that ensures our testing is of the highest reliability and accuracy. Our Dual Processing™ procedures ensure that each sample is tested in duplicate by two different teams working independently. Results from the two groups are compared upon completion of the analysis and must be in agreement for validation of the testing. This Dual Process™ is voluntary and far exceeds the industry standard. Every sample is independently logged-in, extracted, processed, and **all genetic systems are analyzed twice** by two separate teams. The two sets of results are reviewed by at least two DNA experts prior to a final review by a Ph.D. Director. Fresno County will continue to have a high level of confidence that the correct samples were tested and reported.

Color Coding of Specimen Envelopes and Chain of Custody Documentation

Each specimen collection kit consists of color-coded envelopes containing four (4) buccal swabs for each party to be tested. These features provide added measures to protect against the possibility of inadvertently switching samples at the time of sample collection. Blue envelopes are used for alleged fathers, pink envelopes are used for mothers, and yellow envelopes are utilized for child(ren).

Automated Processes Minimize Potential for Human Error

DDC utilizes automated processes and equipment whenever possible. By using sophisticated robotic sample handling equipment, the potential for human error in manipulating the layout and placement of samples during handling and the testing process is greatly reduced. This automation is not required by the AABB.

Bar Coding Samples at the Laboratory

All samples and chain of custody forms are bar coded with unique numerical identifiers. The bar code numbers are assigned using a proprietary software application, and each bar code is applied to the sample during the accessioning process. Prior to the testing process, the assigned bar codes are rescanned, and the system verifies the tested party name and bar code match. This auditing procedure ensures that each sample has been independently verified twice before entering the laboratory. At each additional step in the analysis procedure, these bar codes are scanned with a bar code reader and checked for concordance. If the bar codes do not match, laboratory processing is halted. Additionally, anytime a sample is transferred, a unique reference number is linked to that sample. This unique reference is 32 digits represented by a 2D bar code, the unique reference number is known as a Globally Unique Identifier (GUID). There is no limit to the quantity of these unique linked numbers, thereby adding this quality process each time the sample is transferred. This concept in process control nearly eliminates the possibility of sample switching in the laboratory. This sample bar coding goes far beyond AABB standards for sample identification. Utilizing barcoding provides an additive quality feature after all names have been verified and checked for accuracy on the samples and chain of custody prior to linking with the GUID as described above. If there is an issue with any labeling involving a tested party name, laboratory analysis will not be conducted. The use of bar codes enhances quality assurance and in no way replaces the tested party name review.

Multiple Exclusions

When laboratory data indicates exclusionary results, a minimum of three (3) exclusions will be required; however, most cases processed by DDC will have more than four exclusions. AABB standards require a minimum of two exclusions, but DDC has adopted a stricter policy, which realistically eliminates the possibility of false exclusions due to mutation events.

Gender Marker Amelogenin

The inclusion of the gender marker Amelogenin in the testing battery is an important quality control feature. This internal control helps confirm the identities of the tested parties (mother and father) and the identities of the children as well (especially in multiple-child cases) by verifying the gender of each party collected. If discrepancies exist between the gender identified on the chain of custody form and the test outcome (i.e. if a brother and sister's sample were switched), the software identifies this discrepancy during the Laboratory Director's review and further investigation will be required. No report will be generated until all issues have been resolved. Use of this marker to identify sample switching is not an AABB requirement.

Computer Verification of Sample Placement

DDC's software verifies testing results by analyzing all permutations of sample party identification within a case. In other words, the computer will show a color alert if the father is erroneously placed into the role of mother, the mother is put into the erroneous role of

child, the child is put into the erroneous role of father, and all other permutations possible. Additionally, if testing results in a maternal exclusion, then DDC software will "red flag" all maternal exclusions. Additionally, DDC's software will alert the analyst to any cloning of samples within a case to prevent any possible sample duplications. The software also alerts the analyst to any inclusions between the mother and father to prevent any potential mother/child switches within a case.

Training Seminars

Upon request, DDC will present experts in genetic testing and related fields to conduct training seminars to update your employees, attorneys, and support staff in paternity actions, collection methods, and advances in the field of testing related to paternity testing. In addition, as a national provider of testing as well as an active participant in NCSEA (National Child Support Enforcement Association), we can communicate the latest industry trends observed in paternity establishment and disestablishment.

We have conducted many training seminars for Child Support Enforcement agencies throughout the United States. Each seminar is unique and is designed to address the needs and interests of its participants. With the use of audiovisual aids and other distributed training materials, DDC's personnel are able to bring complex scientific matters to a comfortable level of comprehension. Training sessions will take place at a location designated by, and at the convenience of Fresno County. DDC will provide training sessions and all necessary training materials at no additional cost.

11. Provide a copy of your AABB accreditation.

Response: DDC is one of the most accredited and certified laboratories in the DNA testing industry. We have received and currently hold all of the necessary accreditations and licensures to perform biological relationship testing in all 50 states and worldwide. All testing performed for Fresno County will continue to be in strict compliance with the current edition of the AABB's *Standards for Relationship Testing Laboratories*. DDC has maintained its AABB accreditation since 1996. In addition to our AABB accreditation, DDC holds additional accreditations and certifications from the following organizations: ACLASS, American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB), New York State Department of Health (NYDOH), Clinical Laboratory Improvement Amendments (CLIA), Standards Council of Canada (SCC), College of American Pathologists (CAP), the Ministry Of Justice (U.K.), and National Association of Testing Authorities (N.A.T.A.-Australia). Details of these accreditations are provided below:

- a) Parentage Testing by the AABB (formerly the American Association of Blood Banks) since 1996.
- b) CLIA Laboratory Certificate of Accreditation by the U.S. Department of Health & Human Services since 1996.
- c) Parentage/Identity Testing by the New York State Department of Health (NYDOH). The NYDOH monitors the overall quality of testing conducted on specimens obtained in New

York State by out-of-state laboratories. The state's Clinical Laboratory Evaluation Program (CLEP) ensures the accuracy and reliability of analytical results obtained through on-site inspections, proficiency testing, and evaluation of personnel qualifications. DDC has been accredited by New York State since 1998 and undergoes an on-site assessment every two years by an external assessor.

- d) Paternity/Family Relationship testing by the Standards Council of Canada (SCC). The SCC accredits laboratories performing forensic objective testing such as that involving parentage and family relationships. Their accreditation verifies that an organization has the necessary competence to execute these functions. The SCC also conducts regular on-site assessments of DDC's laboratory and reviews its performance to ensure the facility is conforming to the Council's reporting requirements and quality expectations.
- e) ISO 17025/IEC by ACLASS Accreditation Services. DDC has been certified to ISO standards since 2003, which are the international standards set for ensuring the technical competency of laboratories. ISO/IEC 17025 covers every aspect of laboratory management, ranging from sample preparation to analytical testing proficiency, to record keeping and reports.
- f) Parentage Testing and other Molecular Pathology Testing by The College of American Pathologists (CAP) since 2004.
- g) ASCLD/LAB-International by the American Society of Crime Laboratory Directors/Laboratory Accreditation Board since 2005. ASCLD/LAB-International is the most stringent accreditation program for forensic DNA laboratories.
- h) National Association of Testing Authorities (N.A.T.A.) is the authority that provides independent assurance of technical competence through a proven network of best practice industry experts. NATA provides assessment, accreditation, and training services to laboratories and technical facilities throughout Australia and internationally.

DDC has a strong Quality Management System and consistently exceeds the standards set by its accrediting organizations. DDC has had thirty-five (35) assessments from various accreditation bodies with no findings of non-conformances with their standards. Copies of all current accreditation certificates are provided in Attachment #4. DDC will continue to maintain the necessary accreditations throughout the length of this agreement.

12. Provide a sample Test Result report.

Response: DDC will continue to submit standard written reports including an interpretation of test results for each individual case in accordance with California state law and all applicable statutes. Paternity evaluation reports include clear, concise language to provide an understandable interpretation of testing results. Each paternity evaluation report will include, at a minimum, the following information:

- Table of results;
- Interpretation of the results;
- Probability of paternity;
- Effect of prior probability and likelihood of paternity; and

- Statement of exclusion, if applicable.

In addition, DDC's paternity testing reports include the following information:

- Tester's name, title and qualifications
- IV-D case number and court or administrative order number
- Names of tested parties
- Date(s) of specimen collection
- Types of DNA tests performed
- Combined paternity index
- Conclusions
- Signed Chain of Custody form
- Donor's photographs and thumbprints
- Copy of judicial or administrative order for genetic testing, if provided
- Signature of Ph.D. Laboratory Director conducting case review
- Notary signature and seal

DDC is also able to provide, upon request, reports in Spanish or other languages. Copies of sample inclusionary and exclusionary paternity reports are provided in Attachment #5. DDC will provide certified results to other parties at the County's request. DDC will maintain an electronic copy of the test results and chain of custody documentation.

In addition, testing outcomes will be available to authorized DCSS and DSS representatives via DDC's secure website. This website provides caseworkers with the ability to track and collect performance data on all cases received in our laboratory 24 hours a day. Our proprietary interface, <https://contracts.dnacenter.com>, offers a direct link to child support offices allowing immediate access to information stored in our database for paternity cases. This service feature provides our customers with the option of an almost paperless and convenient interface with our laboratory. In addition, DDC will provide email notification that test results are completed, uploaded to the web interface, and ready to be viewed. Authorized DCSS and DSS staff may print a fully completed report ensuring legibility, accuracy and convenience. Like the traditional hard copy report, this electronic report includes the Ph.D.'s signature, report of findings, conclusions, chain of custody documentation, thumbprint, and photographic images of the clients.

REVISED CHECK LIST

This Checklist is provided to assist the vendors in the preparation of their bid response. Included in this list, are important requirements and is the responsibility of the bidder to submit with the bid package in order to make the bid compliant. Because this checklist is just a guideline, the bidder must read and comply with the bid in its entirety.

Check off each of the following:

1. ☒ The Request for Quotation (RFQ) has been signed and completed.
2. ☒ Addenda, if any, have been signed and included in the bid package.
3. ☒ Subcontractors page as provided with this RFQ.
4. ☒ The *Participation* page as provided within this RFQ has been signed and included
5. ☒ The completed *Reference List* as provided with this RFQ.
6. ☒ The completed Comply/Not Comply as provided within this RFQ.
7. ☒ The *Quotation Schedule* as provided with this RFQ has been completed, price reviewed for accuracy and any corrections initialed.
8. ☒ Indicate all of bidder exceptions to the County's requirements, conditions and specifications as stated within this RFQ.
9. ☒ *Bidder to Complete* page as provided with this RFQ.
10. ☒ Response to Submittal Requirements.
11. ☒ Return checklist with RFQ response.
12. ☒ **Completed RFQ in pdf format, electronically submitted to the Bid Page on Public Purchase.**

CURRICULUM VITAE

KATHY L. LEIS

EDUCATION

B.S. – Medical Technology University of Dayton Dayton, OH	1983
A.S. - Medical Laboratory Technology Kettering College of Medical Arts Kettering, OH	1981

PROFESSIONAL EXPERIENCE

<i>Vice President, Operations</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2014 - Present
<i>Director of Operations</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2012 - 2014
<i>Director of Operations</i> Orchid Cellmark Inc. Dayton, OH	1997 - 2012
<i>Paternity Laboratory Supervisor</i> GeneScreen Dayton, OH	1985 - 1997
<i>Staff Medical Technologist/Generalist</i> St. Luke's Medical Center Maumee, OH	1984 - 1985
<i>Staff Medical Technologist, Transfusion Service</i> Kettering Medical Center Kettering, OH	1981 - 1983
<i>Phlebotomist</i> Kettering Medical Center Kettering, OH	1979 - 1981

PROFESSIONAL AFFILIATIONS

- American Society of Medical Technologists
- Ohio Society of Medical Technologists
- American Association of Blood Banks
- American Society of Clinical Pathologists
- American Society for Histocompatibility and Immunogenetics

PUBLICATIONS

Miller Raymond D ; Phillips Michael S ; JO Inho ; Donaldson Miriam A ; Studebaker Joel F. ; Addleman Nicholas ; Alfisi Steven V. ; M Wendy ; Bhatti Hamid A. ; Callahan Chad E. ; Carey Benjamin J. ; Conley Cheryl L. ; Cyr Justin M. ; Derohannessian Vram ; Donaldson Rachel A. ; Elosua Carolina ; Ford Stacey E. ; Forman Angela M. ; Gelfand Craig A ; Grecco Nicole M. ; Gutendorf Susan M.; Hock Cricket R. ; Hozza Mark J.; H Soyoung ; Sun Miin ; Jackson Diana L. ; Sangmeeahn Jo ; Jung Sung-Chul ; Kim Sook ; Kimm Kuchan ; Kloss Ellen F. ; KOBOLDT Daniel C. ; KUEBLER Jennifer M. ; KUO Feng-Shen ; LATHROP Jessica A. ; LEE Jong-Keuk ; Leis Kathy L. ; Livingston Stephanie A. ; Lovins Elizabeth G. ; Lundy Maria L.; Maggan Sima ; Minton Matthew ; Mockler Michael A. ; Morris David W. ; Nachtman Eric P. ; Oh Bermseok ; Park Chan ; Park Chang-Wook ; Pavelka Nicholas ; Perkins Adrienne B. ; Restine Stephanie L ; Sachidanandam Ravi ; Reinhart Andrew J. ; Scott Kathryn E. ; Shah Gira J. ; Tate Jatana M. ; Varde Shobha A. ; Walters Amy ; White J. Rebecca ; Yoo Yeon-Kyeong ; **"High-Density Single-Nucleotide Polymorphism Maps of the Human Genome"**, Genomics ISSN 0888-7543, 2005, vol. 86, n^o2, pp. 117-126.

Gutendorf, R. W. and K. Leis, **"An Apparent Maternal Exclusion Resolved by Family Studies"**, OABB/IABB, 1986.

Gutendorf, R. W., K. Leis, and L. Frabotta, **"Exclusion of Paternity Without Testing the Mother"**, OABB, 1987.

Yates, J., P. Chapman, and K. Leis, **"Evaluations of Indirect Exclusions"**, OABB, 1991.

Gutendorf, R. W., R. Smith, K. Leis, and J. Yates, **"Paternity Inclusion in the Presence of Multiple Exclusions"**, Annal. of Clin. and Lab Sci., Vol. 21, No. 4, 1991.

CURRICULUM VITAE

MICHAEL LEONARD BAIRD, Ph.D.

EDUCATION

Ph.D. – Genetics The University of Chicago Chicago, IL	1978
M.A. - Biology State University of New York New Paltz, NY	1973
B.A. - Biology State University of New York Madison, NY	1971

PROFESSIONAL EXPERIENCE

<i>Chief Science Officer</i> DNA Diagnostics Center (DDC) Fairfield, OH	2010-Present
<i>Associate Vice President & Laboratory Director</i> DNA Diagnostics Center Fairfield, OH	2008 - 2009
<i>Laboratory Director</i> DNA Diagnostics Center Fairfield, OH	2002 - 2008
<i>Senior Director, Laboratory Operations</i> Orchid Diagnostics Stamford, CT	2001 - 2002
<i>Vice President, Laboratory Operations</i> Lifecodes Corporation Stamford, CT	1992 - 2001
<i>Director Business Development</i> Lifecodes Corporation Stamford, CT	1990 - 1992

<i>Director of Forensics & Paternity</i> Lifecodes Corporation Stamford, CT	1986 - 1990
<i>Senior Scientist</i> Lifecodes Corporation Stamford, CT	1982 - 1986
<i>Adjunct Assistant Professor</i> New York Medical College New York, NY	1986 - 1992
<i>Research Associate</i> Columbia University	1979 - 1982
<i>Postdoctoral Fellow</i> University of Michigan Ann Arbor, MI	1978 - 1979

PROFESSIONAL ASSOCIATIONS

- The American Academy of Forensic Sciences
- American Association for the Advancement of Science
- American Association of Blood Banks (AABB)
- American Society of Hematology
- American Society of Human Genetics
- Sigma Chi Society
- International Society for Forensic Genetics
- American Society of Crime Laboratory Directors
- American Society of Histocompatibility and Immunogenetics
- International Association for Identification

LICENSES AND CERTIFICATIONS

New York State Department of Health
Certificate of Qualification Number B 3447
Histocompatibility (HLA typing with DNA probes) Paternity/Identity Analysis

State of Connecticut Department of Health
Certificate of Qualification Number 381
Clinical Laboratory Director

Department of Health & Human Services
Laboratory Registration Certificate

CLIA ID #36D0910013

American Society of Histocompatibility and Immunogenetics
Laboratory Director of Histocompatibility Laboratory

PROFESSIONAL SOCIETY POSITIONS

- AABB: Chair Parentage Testing Accreditation Program Unit, Liaison to Parentage Testing Standards Committee, Member of Accreditation Program Committee, Assessor of Parentage Testing Laboratories for AABB
- Human Identity Trade Association, President
- American Society of Histocompatibility and Immunogenetics, Inspector

PUBLICATIONS

1. Garber, E. D., M. L. Baird, and D. J. Chapman. 1975. Genetics of Ustilago violacea. I. Carotenoid mutants and carotenogenesis. Botanical Gazette. 136: 341-346.
2. Garber, E. D., M. L. Baird, and L. M. Weiss. 1978. Genetics of Ustilago violacea. II. Polymorphisms of color and nutritional requirements of sporidia from natural populations. Botanical Gazette. 139:261-265.
3. Catrall, M. E., M. L. Baird, and E. D. Garber. 1978. Genetics of Ustilago violacea. III. Crossing over and nondisjunction. Botanical Gazette. 139:266-270.
4. Baird, M. L. and E. D. Garber. 1979. Genetics of Ustilago violacea. IV. An electrophoretic survey for urease variants in wild strains. Botanical Gazette. 140:84-88.
5. Baird, M. L. and E. D. Garber. 1979. Genetics of Ustilago violacea. V. Outcrossing and selfing in teliospore inocula. Botanical Gazette. 140:89-93.
6. Bank, A., J. G. Mears, F. Ramirez, M. Baird, and J. Feldenzer. 1979. Organization of normal and abnormal human globin genes by restriction enzyme analysis. In Sigler, P. B. (Ed.): Proceedings of the Symposium on the Molecular Basis of Mutant Hemoglobin Dysfunction. Illinois. Elsevier/North Holland.
7. Bank, A., J. G. Mears, F. Ramirez, A. L. Burns, S. Spence, J. Feldenzer, and M. Baird. 1980. The organization of the gamma-delta-beta gene complex in normal and thalassemia cells. In Huisman, T. H. J. (Ed.): Proceedings of the Seminar of Abnormal Human Hemoglobins and Red Cell Enzymes. New York.
8. Bank, A., J. G. Mears, F. Ramirez, A. L. Burns, S. Spence, J. Feldenzer, and M. Baird. 1980. The organization of the gamma-delta-beta gene complex in normal and thalassemia cells. Hemoglobin. 4:497-507.

9. Bank, A., A. L. Burns, M. Baird, and R. Pergolizzi. 1981. Globin gene pathology: Clues to gene function and hemoglobin switching. In Stamatoyannopoulos, G. and A. W. Nienhuis (Eds.): Organization and Expression of Globin Genes. Liss/New York.
10. Baird, M. L., C. Driscoll, H. Schreiner, G. V. Sciaratta, G. Sansone, G. Niazi, F. Ramirez, and A. Bank. 1981. A nucleotide change at a splice junction in the human beta globin gene is associated with beta zero thalassemia. *Proceedings of the National Academy of Sciences*. 78:4218-4221.
11. Baird, M., H. Schreiner, C. Driscoll, and A. Bank. 1981. Localization of the site of recombination in formation of the Lepore Boston globin gene. *Journal of Clinical Investigation*. 68:560-564.
12. Driscoll, C., M. Baird, and A. Bank. 1981. A new polymorphism in the human beta globin gene useful in antenatal diagnosis. *Journal of Clinical Investigation*. 68:915-919.
13. Burns, A. L., S. Spence, K. A. Kosche, F. Ramirez, J. G. Mears, H. Schreiner, C. Miller, M. Baird, D. Leibowitz, P. Giardina, A. Markenson, and A. Bank. 1981. Isolation and characterization of cloned DNA: The delta and beta globin genes in homozygous beta plus thalassemia. *Blood*. 57:140-146.
14. Bank, A., M. Baird, M. C. Driscoll, R. G. Pergolizzi, and S. Spence. 1982. Gene defects in the thalassemias: Recent advances in detection and treatment. In Cao, A., Carassi, U., and Rowley P. (Eds). Organization of Globin Genes. Liss/New York.
15. Bank, A., S. E. Spence, P. G. Pergolizzi, M. C. Driscoll, and M. Baird. 1983. Gene defects in beta thalassemia. In Goldwasser, E. (Ed.): Regulation of Hemoglobin Biosynthesis. Elsevier/Holland.
16. Baird, M., M. C. Driscoll, B. Ramot, Y. Ohta, F. Nakamura, A. Bloom, and A. Bank. 1983. Gene analysis in delta-beta and delta zero thalassemia. *Journal of Biological Chemistry*. 259:512-515.
17. Beldjord, C., C. Lapourmourlie, M. Baird, R. Girot, L. Adjrad, G. Lenoir, M. Benabadji, and D. Labie. 1983. Four new haplotypes observed in Algerian beta thalassemia patients. *Human Genetics*. 65:204-206.
18. Baird, M., E. Kanter, R. Schaler, and I. Balazs. 1986. Application of DNA polymorphisms to the forensic examination of dried blood stains. In Brinkmann, B. and Henningsen, K. (Eds): Advances in Forensic Haemogenetics. pp 351-355.
19. Baird, M., A. Giusti, I. Balazs, and J. Glassberg. 1986. Application of DNA polymorphisms to the forensic examination of semen. In Brinkmann, B. and Henningsen, K. (Eds.): Advances in Forensic Haemogenetics. pp 354-360.
20. Balazs, I., K. Wexler, L. Nicholas, L. Miyazaki, A. Giusti, M. Baird, P. Rubinstein, F. Allen, and L. Sussman. 1986. Application of DNA polymorphisms to the determination of paternity. In Brinkmann, B. and Henningsen, K. (Eds): Advances in Forensic Haemogenetics. pp 196-200.

21. Kanter, E., M. Baird, R. Shaler, and I. Balazs. 1986. Analysis of restriction fragment length polymorphisms in deoxyribonucleic acid (DNA) recovered from dried bloodstains. *Journal of Forensic Sciences*. 31:403-408.
22. Giusti, A., M. Baird, S. Pasquale, I. Balazs, and J. Glassberg. 1986. Application of deoxyribonucleic (DNA) polymorphisms to the analysis of DNA recovered from sperm. *Journal of Forensic Sciences*. 31:409-417.
23. Baird, M., I. Balazs, A. Giusti, L. Miyazaki, L. Nicholas, K. Wexler, E. Kanter, J. Glassberg, F. Allen, P. Rubinstein, and L. Sussman. 1986. Allele frequency distribution of two highly polymorphic DNA sequences in three ethnic groups and its application to the determination of paternity. *American Journal of Human Genetics*. 39:489-501.
24. Benn, P., L. Soper, A. Eisenberg, T. Silver, M. Coleman, B. Caccapaglia, L. Bennett, M. Baird, M. Silverstein, C. Berger, and B. Bernhardt. 1987. Utility of molecular genetic analysis of BCR rearrangement in the diagnosis of chronic myeloid leukemia. *Cancer Genetics and Cytogenetics*. 29:1-7.
25. Soper, L., B. Bernhardt, A. Eisenberg, B. Caccapaglia, L. Bennett, M. Baird, and R. Silver. 1987. Clonal immunoglobulin gene rearrangements in chronic lymphocytic leukemia: A correlative study. *American Journal of Hematology*. 27:257-264.
26. Baird, M., M. Clyne, E. Meade, L. Ratzlaff, G. Smalls, K. Wexler, P. Benn, I. Balazs, and J. Glassberg. 1988. The application of DNA-Print for the estimation of paternity. *Advances in Forensic Haemogenetics* 2. pp 354-358.
27. Baird, M., A. Giusti, E. Meade, M. Clyne, R. Shaler, P. Benn, I. Balazs, and J. Glassberg. 1988. The application of DNA-Print for identification from forensic biological materials. *Advances in Forensic Haemogenetics* 2. pp 396-402.
28. Balazs, I., M. Baird, M. Clyne, and E. Meade. 1989. Human population genetic studies of five hypervariable DNA loci. *American Journal of Human Genetics*. 44:182-190.
29. McNally, L., R. Shaler, M. Baird, I. Balazs, P. DeForest, and L. Kobilinsky. 1989. Evaluation of deoxyribonucleic acid (DNA) isolated from human bloodstains exposed to ultraviolet light, heat, humidity, and soil contamination. *Journal of Forensic Sciences*. 34:1059-1069.
30. McNally, L., R. Shaler, M. Baird, I. Balazs, L. Kobilinsky, and P. DeForest. 1989. The effects of environment and substrata on deoxyribonucleic acid (DNA): The use of casework samples from New York City. *Journal of Forensic Sciences*. 34:1070-1077.
31. Baird, M. 1989. Quality Control and Quality Assurance. In *DNA Technology and Forensic Science*. Edited by Ballantyne, J., Sensabaugh, G., and Witkowski, J. Banbury Report 32. pp 175 - 190. Cold Spring Harbor Laboratory Press. New York.

32. McNally, L., M. Baird, K. McElfresh, A. Eisenberg, and I. Balazs. 1990. Increased migration rate observed in DNA from evidentiary material precludes the use of sample mixing to resolve forensic cases of identity. Applied and Theoretical Electrophoresis. 1:267-272.
33. Baird, M., K. McElfresh, L. McNally, L. Bennett, J. Coleman, D. Vining, J. Sgueglia, M. Keel, L. Galbreath, R. Cunningham, and I. Balazs. Analysis of Case work samples by single locus VNTR polymorphisms. In Advances in Forensic Haemogenetics 3. Edited by Polesky, H. and Mayr, W. pp 88 - 91. Springer-Verlag, Berlin.
34. Balazs, I., M. Baird, K. McElfresh, and J. Udey. 1990. Hardy-Weinberg equilibrium analysis of DNA polymorphic loci that exhibit a continuous distribution of fragment sizes. In Advances in Forensic Haemogenetics 3. Edited by Polesky, H. and Mayr, W. pp 71 - 74.
35. Balazs, I., M. Baird, K. McElfresh, and R. Shaler. 1990. Experimental techniques for the isolation and analysis of DNA from forensic materials. In DNA Forensic Science Theory, Techniques and Applications. Edited by Robertson, J., Ross, A., and Burgoyne, L. pp 60 -73. Ellis Horwood. New York.
36. Baird, M., I. Balazs, and K. McElfresh. 1990. Examination of Forensic Biological Evidence by DNA Print Analysis. In DNA and Other Polymorphisms in Forensic Science. Edited by H. Lee and R. Gaensslen. pp 61 - 75. Year Book Medical Publishers, Inc. Chicago.
37. Baird, M. 1990. Analysis of Forensic DNA Samples by Single Locus VNTR Probes. In Forensic DNA Technology. Edited by M. Farley and J. Harrington. pp 39 -49. Lewis Publishers, Inc. Michigan.
38. Baird, M. 1991. The Search for Truth in DNA. Invited Editorial. The New Biologist. 3:527-529.
39. Baird, M. 1993. Quality Control in DNA Profiling Tests. in Molecular Biology and Pathology. Edited by D. Farcus. pp 201 - 215. Academic Press, Inc. New York.
40. Baird, M. 1996. Use of DNA Identification for Forensic and Paternity Analysis. Journal of Clinical Laboratory Analysis. Wiley-Liss, New York, Volume 10, Issue 6, pp 350-358.
41. Baird, M. 1997. DNA Profiling: Laboratory Methods. In Modern Scientific Evidence. D. Faigman, D. Kaye, M. Saks, and J. Sanders, Eds. West Publishing Company, St. Paul, MN.
42. Baird, M. 1998. Use of the AmpliType PM + HLA DQA1 Amplification and Typing Kits for Identity Testing. In Forensic DNA Profiling Protocols. P. Lincoln and J. Thomson, Eds. Humana Press. Totowa, New Jersey.

43. Reid, T., D. Ingala, C. Kraemer, W. Dage, C. Dieckhoner, J. Forman, D. Hodge, K. Johnson, C. Oatman, H. Schlotman, C. Schuh, and M. Baird. 2003. Distribution of HUMACTBP22 (SE33) Alleles in Three north American Population. *Journal of Forensic Sciences*. 48:1422-1423.
44. Reid, T, C. Wolf, C. Kraemer, S. Lee, M. Baird, R. Lee. 2004. Specificity of Sibship determination using the ABI Identifiler Multiplex System. *Journal of Forensic Sciences*. 49:1262-1264.
45. Peterson, J. W., T. Reid, C. Kraemer, D. Ingala, M. Baird, S. Lee, and R. Lee. 2005. Distribution of Penta B, Penta C, and Penta E Alleles in Asian, Black, Caucasian, and Hispanic Populations. *Journal of Forensic Sciences*. 50:966-968.
46. Allen, R. W., J. Fu, T. M. Reid, M. Baird. 2007. Considerations for the interpretation of STR results in cases of questioned half-sibship. *Transfusion*. 47:515-519.
47. Reid, T. M., J. W. Peterson, M. L. Baird, S. C. Lee, and R. F. Lee. 2008. The Use of Supplemental STR Loci for Resolving Difficult Family Relationship Cases. *Forensic Science International: Genetics Supplement Series*. 1:520-521.
48. Reid, T. M., M. L. Baird, J. P. Reid, S. C. Lee, and R. F. Lee. 2008. Use of Sibling Pairs to Determine the Familial Searching Efficiency of Forensic Databases. *Forensic Science International: Genetics*. 2:340-342.

CURRICULUM VITAE

DEBRA DAVIS, PH.D.

EDUCATION

M.B.A. – Finance University of Cincinnati Cincinnati, OH	2001
Ph.D. - Biomedical Sciences (Molecular Genetics) Wright State University Dayton, OH	1993
B.S. – Biology University of Cincinnati Cincinnati, OH	1987

PROFESSIONAL EXPERIENCE

<i>Laboratory Director</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2012 - Present
<i>Laboratory Director</i> Orchid Cellmark Inc. Dayton, OH	2007 - 2012
<i>Associate Laboratory Director</i> Orchid Cellmark Inc. Dayton, OH	1998 - 2007

PROFESSIONAL AFFILIATIONS

Certification of Qualification New York State Department of Health: Laboratory Director for Parentage /Identity Testing and DNA Testing (2004 to present)

AABB (American Association of Blood Banks) Member since 1998

Member AABB Relationship Testing Standards Subcommittee 2010-2010

Member AABB Assessor Program 2007-Present

POST DOCTORAL EDUCATION

Specialized Training in Basic Population Genetics and Forensic Statistics. 14th International Symposium on Human Identification (2003)

Postdoctoral Research Fellow, Department of Internal Medicine, Division of Cardiology, University of Cincinnati Medical Center, Cincinnati, Ohio
Supervisors: Muthu Periasamy, Ph.D. and Michael Ritchie, M.D.

“Overexpression of the SR Ca²⁺ ATPase in transgenic mice”

*Performed both RFLP and PCR genotype analysis of transgenic mice (1996 – 1998)

1993-1996 Postdoctoral Research Assistant, Department of Internal Medicine, Division of Cardiology, University of Cincinnati Medical Center, Cincinnati, Ohio
Supervisors: Muthu Periasamy, Ph.D. “Transcriptional regulation of the cardiac/slow-twitch muscle SR Ca²⁺ ATPase (SERCA2) gene. (1993 – 1996)

GRADUATE RESEARCH/TEACHING EXPERIENCE

Graduate Research Assistant, Department of Biochemistry, Wright State University, Dayton, Ohio (1987-1993)

Supervisor: John Paietta, PhD. “Molecular Characterization of the arylsulfatase gene of *Neurospora crassa*.”

Graduate Teaching Assistant, Undergraduate Biology Laboratory, Wright State University, Dayton, Ohio. (1998)

Graduate Teaching Assistant, Honors Biology Laboratory, Wright State University, Dayton, Ohio (1989)

Graduate Teaching Assistant, Clinical Chemistry (lecture and laboratory)
Wright State University, Dayton, Ohio (1989)

Research Support:

Individual National Research Service Award (NRSA) Postdoctoral Fellowship, “Molecular analysis of SR Ca²⁺ ATPase gene expression.” 3-yrs./ (\$25,600, 26,900, 28,900) August 1, 1995- July 31, 1998

American Heart Association, Postdoctoral Fellowship, “Transcriptional regulation of the cardiac SR Ca²⁺ ATPase gene.” 1-yr./ (\$30,000) July 1, 1995- June 30, 1996 ***declined

INVITED SPEAKER

12th International Symposium on Human Identification- Speaker Paternity Section October 2001
“Interesting Cases / Obstacles in Parentage Testing”

Illinois Family Support Association’s Twentieth Annual Members’ Meeting and Conference –
Speaker October 2008 “DNA Testing”

Louisiana Support Enforcement Association 2009 Training Conference March 11, 2009
Workshop “Utilization of Paternity DNA Testing in Court: The Goof, The Bad and The
Unacceptable.”

Prosecuting Attorneys of Michigan 2010 Meeting and Conference. March 18, 2010 Workshop
“DNA Testing”.

Eastern Regional Child Support Association 2010 Meeting and Conference. May 4, 2010
Workshop Speaker “DNA Testing”.

Indiana Child Support Enforcement 2010 Meeting and Conference. June 3, 2010 Workshop
Speaker “DNA Testing”.

PUBLICATIONS

D.L. Baker and Paietta J.V. Characterization of the arylsulfatase gene of *Neurospora crassa*.
FASEB Journal, 5, 6694 (1991).

D.L. Baker and Paietta J.V. Analysis of the regulated expression of the *Neurospora crassa*
arylsulfatase gene. *Abstracts of the General Meeting of the American Society for Microbiology*,
1953 (1992).

D.L. Baker, Shabbeer J., Larsen J., Walsh R.A., and Periasamy, M. Characterization of multiple
cis-acting elements regulating SERCA2 expression in cardiac and skeletal muscle cells. *J*
Cellular Biochemistry. Suppl. 18D: W201 (1994).

D.L. Baker, Aria M., Matsui h., Sukovich D., Shabbeer J., Dave V., Walsh RA., and Periasamy
M. Regulation of sarcoplasmic reticulum gene expression during cardiac hypertrophy and heat
failure. (in Dhalla W.S., Singal P.K. Beamish R.E., eds.) *Heart Hypertrophy and Failure*, Kluwer
Academic Publishers, Boston. (1995).

Baker, Dave V., Reed T., and Periasamy M. Multiple SP1 binding sites in the cardiac/slow-
twitch muscle Ca²⁺ ATPase (SERCA2) gene promoter are required for expression in Sol8
muscle cells. *J Biol. Chem.* 271: 5921-5928(1996).

D.L. Baker, Dave V., Reed T., and Periasamy M. SP1 plays an essential role in the
transcriptional regulation of the SERCA gene. *Keystone Symposia: Molecular Biology of the*
Cardiovascular System. 200 (1996).

T. Reed, Baker DL, Dave V., and Periasamy M. Muscle specific transcriptional regulation of the

cardiac/slow-twitch SERCA2 gene. *Circulation*. 94:1324 (1996).

D.L. Baker, .Loukianov E, Bhagwat A, Hoit B, Walsh RA, and Periasamy M. Overexpression of the SR Ca²⁺ in transgenic mouse hearts. *ISHR Meeting*, Vancouver, British Columbia, Canada, (1997)

D.L. Baker, Dave V., Reed T., and Periasamy M. A Novel E-box/AT-rich element is required for the muscle specific expression of the sarcoplasmic reticulum Ca²⁺ ATPase (SERCA2) gene . *Nucleic acids Res*. 26:1092-1098 (1998).

D.L. Baker, Reed T, Grupp IL, Grupp G, Bhagwat A, Hoit B, Walsh RA, and Periasamy M. Overexpression of the cardiac SR Ca²⁺ ATPase increases myocardial performance. *American Heart Association—70th session*, (1997).

Rishi AK, Wu JT, Yu M, Belani JP, Fontana JA, Baker DL, Periasamy M, and Hussain A. Regulation of the sacro/endoplasmic reticulum Ca²⁺ transport ATPase in thapsigargin- resistant Syrian hamster smooth muscle cells. *Nucleic acids Res*. (1998).

Loukianov E, Ji Y, Grupp IL, Kirkpatrick D, Baker DL, Loukianova T, Grupp G, Lytton J, Walsh RA, Periasamy M. Enhanced myocardial contractility and increased Ca²⁺ transport function in transgenic hearts expressing the fast-twitch skeletal muscle sarcoplasmic reticulum Ca²⁺ ATPase. *Circ.Res*. 83: 889-897 (1998).

Loukianov E, Ji Y, Baker DL, Reed T., Babu, J, Loukianov T, Greene A, Shull G, and Periasamy M. Sarco(endo)plasmic reticulum Ca²⁺ ATPase isoforms and their role in muscle physiology and pathology. "Cardiac sarcoplasmic reticulum function and regulation of contractility." *Annals of New York Academy of Science* (1998).

D.L. Baker, Grupp IL, Ji Y, Reed T, Loukianov E, Grupp G, Bhagwat A, Hoit B, Walsh RA, and Periasamy M. Targeted overexpression of the sarcoplasmic reticulum Ca²⁺ ATPase increases cardiac contractility in transgenic mouse hearts *Circ. Res*. 83:1205-1214 (1998).

CURRICULUM VITAE

JOHN PETERSON, PH.D.

EDUCATION

Ph.D. – Biomedical Sciences Wright State University Dayton, Ohio	2003
B.S. – Biological Sciences Wright State University Dayton, Ohio	1994

PROFESSIONAL EXPERIENCE

<i>Laboratory Director</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2017 - Present
<i>Associate Laboratory Director</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2012 - 2017
<i>Forensic Scientist</i> Marion County Forensic Services Agency Indianapolis, IN	2007 – 2012
<i>Assistant Laboratory Director</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2003 - 2007
<i>Laboratory Technician</i> Wright State University Dayton, OH	1995 – 1996

PROFESSIONAL AFFILIATIONS

AABB - Advancing Transfusion and Cellular Therapies Worldwide (formerly the American Association of Blood Banks)
ASM - American Society for Microbiology
AAFS - American Academy of Forensic Sciences

SPECIALIZED TRAINING

Quality Assurance Standards/Auditor Training Federal Bureau of Investigation, Laboratory Division	January 2011
Mixture Interpretation: Principles, Protocol, & Practices San Antonio, TX	October 2010
Extensive training in DNA analysis for forensics Indianapolis-Marion County Forensic Services Agency Indianapolis, IN	2007 - 2008
Courtroom Training Course Indianapolis-Marion County Forensic Services Agency	March 2008
DNA Mixture Interpretation: Principles and Practice in Component Deconvolution and Statistical Analysis. Washington, D.C.	February 2008
Statistics Theory Los Angeles, CA	October 2007
Hair Examination for DNA Analysis Indianapolis, IN Instructor: Max Houck	May 2007
Extensive training and experience in DNA-based veterinary relationship and veterinary disease/trait testing DNA Diagnostics Center, Fairfield, OH	2004 – 2007
Extensive training and experience in DNA-based human relationship testing DNA Diagnostics Center, Fairfield, OH	2003 - 2007
Understanding DNA Statistics Dallas, TX	September 2005

CONFERENCES ATTENDED

American Academy of Forensic Sciences 68th Annual Meeting (2016)
Attended Considerations for Implementing Next Generation Sequencing (NGS)
Technologies into a Forensics Laboratory workshop. Chair: Timothy McMahon, PhD
Las Vegas, NV

American Academy of Forensic Sciences 67th Annual Meeting (2015)

Attended Obtaining Successful DNA Profiles From Challenging Samples workshop.
Chair: Sudhir Sinha, PhD Orlando, FL

American Academy of Forensic Sciences 66th Annual Meeting (2014)
Attended Applications of Next Generation Sequencing in Forensic DNA Analysis workshop. Chair: Jaiprakash Shewale, PhD Seattle, WA

American Academy of Forensic Sciences 65th Annual Meeting, Washington, DC (2013)

American Academy of Forensic Sciences 63rd Annual Meeting, Chicago, IL (2011)

21st International Symposium on Human Identification (2010)
Attended Mixture Interpretation: Principles, Protocol, & Practices workshop; Chairs: John Butler, PhD and Robin Cotton, PhD
Attended HITA/AABB workshop on SNP Analysis for Identification, Ancestry, Genealogy, and Relationships workshop; Chair: Thomas Reid, PhD, San Antonio, TX

American Academy of Forensic Sciences 61st Annual Meeting; Denver, CO (2009)

American Academy of Forensic Sciences 60th Annual Meeting (2008)
Attended DNA Mixture Interpretation: Principles and Practice in Component Deconvolution and Statistical Analysis workshop. Chair: John Butler, PhD, Washington, DC

18th International Symposium on Human Identification (2007)
Attended Statistics Theory workshop
Instructors: Bruce Budowle, PhD and George Carmody, PhD Attended Generating DNA Profiles from Difficult Samples workshop.
Attended HITA/AABB immigration issues and DNA testing workshop. Chair: Michael Baird, PhD, Los Angeles, CA

3rd International Conference: Advances in Canine and Feline Genomics and Inherited Diseases, Davis, CA (2006)

16th International Symposium on Human Identification (2005)
Attended Understanding DNA Statistics workshop; Instructors: John Planz, PhD and Arthur Eisenberg, PhD Dallas, TX.

PUBLICATIONS

1. Reid TM, Peterson JW, Baird ML, Lee SC, Lee RF (2008) The use of supplemental STR loci for resolving difficult family relationship cases. **Forensic Sciences International: Genetics Supplement Series.** 1:520-521.

2. Peterson JW, Reid TM, Kraemer CK, Ingala DA, Baird ML, Lee SC, and Lee RF (2005) Distribution of Penta B, Penta C, and Penta E alleles in Asian, Black, Caucasian, and Hispanic populations. **Journal of Forensic Sciences**. 50: 966-968.
3. Peterson JW, Wilson BA, Hull BE, Bigley NJ (2000) *Pasteurella multocida* toxin effects on cytoskeleton and cell division in primary cell cultures. B-154. **American Society for Microbiology 2000 General Meeting**. Los Angeles, CA.
4. Ho M, Wilson BA, Peterson JW (1999) Bacterially expressed Raf-1 catalytic domain is highly associated with GroEL. **Journal of the Chinese Chemical Society**. 46: 735-742.
5. Peterson JW, Wilson BA, Bae SC, Ho M (1998) Bacterially expressed catalytic domain of c-Raf-1 is tightly associated with GroEL. **FASEB J**. 12:A1409. **American Society for Biochemistry and Molecular Biology 1998 General Meeting**. Washington, D.C.
6. Mauer MJ, Peterson JW, Manzon JD, and Bigley NJ (1997) Changes in cell adhesion molecules early in picornavirus infection. **FASEB J**. 11:A120. **American Association for Immunologists 1997 General Meeting**. San Francisco, CA.
7. Trelease RB, Raker JA, Peterson JW, Henderson RA, Park J, and Bigley, NJ (1997) Qualitative process modeling of differences in cytokine production early in picornavirus infection. **FASEB J**. 11:A709. **American Association for Immunologists 1997 General Meeting**. San Francisco, CA.

PRESENTATIONS

1. Reid TM, Peterson JW, Baird ML, Lee SC, Lee RF (2007) The use of supplemental STR loci for resolving difficult family relationship cases. **22nd Congress of the International Society for Forensic Genetics**. Copenhagen, Denmark.
2. Kraemer CK, Reid TM, Hodge DM, Peterson JW, Baird ML, Lee SC, Lee RF (2006) The use of "mini" STR loci for resolving difficult relationship cases. **17th International Symposium on Human Identification**. Nashville, TN.
3. Peterson JW, Baird ML, Reid TM, Kraemer CK, Hodge DM, Schuh CM, Dieckhoner CL, Ahmed MB, Lee SC and Lee RF (2005) DDC Plex: The use of additional STR loci for solving difficult parentage and sibship tests. **16th International Symposium on Human Identification**. Dallas, TX.
4. Peterson JW, Wilson BA, Bae SC, and Ho M (1998) Bacterially expressed catalytic domain of c-Raf-1 is associated with GroEL. **6th Annual Molecular Biology Retreat**. Wright State University, Dayton, OH.
5. Wilson BA, Zhu X, Ho M, Vallance JE, Ponferrada VG, and Peterson JW (1997) The N-terminus of *Pasteurella multocida* toxin uncouples the GqI-protein-mediated IP₃

signaling pathway in *Xenopus* oocytes. **Cold Spring Harbor Laboratory Meeting on Microbial Pathogenesis and Host Defense.** Cold Spring Harbor, NY.

6. Peterson JW, Ho M, and Wilson, BA (1997) Expression and purification of bacterially expressed c-Raf-1 catalytic domain. **5th Annual Molecular Biology Retreat.** Wright State University, Dayton, OH.
7. Wilson BA, Zhu XJ, Ponferrada VG, Peterson JW, Vallance JE, Ho MF, and Lu L (1996) *Pasteurella multocida* toxin activates the IP₃ pathway in *Xenopus* oocytes via Gq-protein- coupled phospholipase C- α -1. **Gordon Research Conference on Microbial Toxins and Pathogenicity.** Andover, NH.
8. Wilson BA, Zhu XJ, Ponferrada VG, Peterson JW, Vallance JE, Ho MF, and Lu L (1996) *Pasteurella multocida* toxin activates the IP₃ pathway in *Xenopus* oocytes via Gq protein-coupled phospholipase C- α -1. **3rd Midwest Microbial Pathogenesis Conference.** Madison, WI.

CURRICULUM VITAE

JOY JOHNSON, PH.D.

EDUCATION

Ph.D. – Microbial Genetics Wright State University Dayton, Ohio	1987
BS – Biology (summa cum laude) Georgetown College Georgetown, Kentucky	1981

PROFESSIONAL EXPERIENCE

<i>Associate Laboratory Director</i> DNA Diagnostics Center (DDC) Fairfield, OH	2012 - Present
<i>Associate Laboratory Director</i> Orchid Cellmark Inc Dayton, Ohio	2007 - 2012
<i>Adjunct Faculty</i> Biological Sciences Department Sinclair Community College Dayton, Ohio	2006 - 2007
<i>Associate Laboratory Director</i> Orchid Cellmark Inc. Dayton, Ohio	1999 - 2006
<i>Research Associate</i> Biological Sciences Department Wright State University	1997 - 1999
<i>Research Microbiologist</i> Department of Veterans Affairs Medical Center Research Service Dayton Facility	1988 - 1997

Research Associate 1987 – 1988
US Environmental Protection Agency
Cincinnati, Ohio

Lab Teaching Assistant 1982 - 1983
Department of Biology
Department of Microbiology and Immunology
Wright State University

Lab Assistant 1987 - 1981
Departments of Biology, Foreign Languages, Chemistry
Georgetown College

PROFESSIONAL AFFILIATIONS

American Society for Microbiology

Biotechnology Club, Cincinnati, Ohio

Laboratory Animal Care and Use Committee Wright State University

Certification of Qualification New York State Department of Health: Laboratory Director for
Parentage /Identity Testing and DNA

PUBLICATIONS

Warren, R. L., N. R. Baker, J. Johnson, and M. J. Stapleton. 1985. Selective inhibition of the accumulation of extracellular proteases of Pseudomonas aeruginosa by gentamicin and tobramycin. Antimicrob. Agents Chemother. 27:468-472.

Sangodkar, U. M. X., T. Aldrich, R. A. Haugland, J. Johnson, R. K. Rothmal, P. J. Chapman, and A. M. Chakrabarty. 1989. Molecular basis of biodegradation of chloroaromatic compounds. Acta. Biotechnol. 9:301-316.

Johnson, J., A. A. Branstrom, and R. L. Warren. 1991. The effects of FP2 and a mercury resistance plasmid from Pseudomonas aeruginosa strain PA103 on exoenzyme production. J. Clin. Microbiol. 29:940-944.

Yokokawa, K., J. Johnson, M. Kohno, A. K. Mandal, M. Yanagisawa, T. Horio, K. Yasunari, and T. Takeda. 1994. Phosphoinositide turnover signaling stimulated by ET-3 in endothelial cells from spontaneously hypertensive rats. Am. J. Physiol. 267 (Regulatory Integrative Comp. Physiol. 36): R635-R644.

ABSTRACTS and PRESENTATIONS

Johnson, J., K. S. Jagger, and R. L. Warren. Influence of iron on exoproducts of Pseudomonas aeruginosa. Ohio Branch Amer. Soc. Microbiol., Athens, Ohio, 1982.

Johnson, J., J. Naglich, and K. S. Jagger. Detection of Pseudomonas proteases in sputum samples from Cystic Fibrosis patients. 84th Nat'l Amer. Soc. Microbiol., St. Louis, Missouri, 1984.

Johnson, J. and R. L. Warren. Insertion of transposon Tn7 into the chromosome of Pseudomonas aeruginosa. 85th Nat'l Amer. Soc. Microbiol., Las Vegas, Nevada, 1985.

Johnson, J. and R. L. Warren. Plasmid control of exoenzymes in Pseudomonas aeruginosa. 87th Nat'l Amer. Soc. Microbiol., Atlanta, Georgia, 1987.

Haugland, R. A., J. Johnson, U. M. X. Sangodkar, P. R. Sfera, A. Kornel, and A. M. Chakrabarty. Characterization of 2,4,5-T degradative genes in Pseudomonas cepacia strain AC1100 and spontaneous mutants. EPA Fourteenth Annual Research Symposium. Land Disposal, Remedial Action, Incineration and Treatment of Hazardous Waste, Cincinnati, Ohio, 1988.

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CURRICULUM VITAE

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EDUCATION

Ph.D. - Cardiovascular Pathophysiology Beijing Medical University, P. R. China	1994
M.S. - Gastrointestinal Pathophysiology, Hebei Medical College, P.R. China	1989
M.D. -Medicine Hebei Medical College, P.R. China	1986

PROFESSIONAL EXPERIENCE

<i>Assistant Laboratory Director</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2014 – Present
<i>Adjunct Assistant Professor</i> Department of Pathology and Laboratory Medicine University of Cincinnati Cincinnati, OH	2007 - 2014
<i>Adjunct Assistant Professor</i> Department of Genome Science University of Cincinnati Cincinnati, OH	2006 - 2007
<i>Senior Research Scientist</i> Department of Genome Science University of Cincinnati Cincinnati, OH	2002 - 2006
<i>Senior Research Scientist</i> Department of Molecular and Cellular Physiology University of Cincinnati Cincinnati, OH	2000 - 2002

<i>Postdoctoral Fellow, Molecular Cardiology</i> Department of Internal Medicine University of Cincinnati Cincinnati, OH	1997 - 2000
<i>Associate Professor</i> Department of Pathophysiology Beijing Medical University, P.R. China.	1996 - 1997
<i>Assistant Professor</i> Department of Pathophysiology Beijing Medical University, P.R. China 7/1989–7/1991	1994 - 1996
<i>Instructor</i> Department of Pathophysiology Hebei Medical College, P.R. China	1989 - 1991
<i>Teaching & Research Assistant</i> Department of Pathophysiology Hebei Medical College, P.R. China	1987 - 1989

PROFESSIONAL AFFILIATIONS

Member, Basic Cardiovascular Sciences Scientific Council of the American Heart Association
Member, International Society for Heart Research

AWARDS AND HONORS

2011-2015	Co-Investigator, NIH/National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) RO1
2010	Recipient, University of Cincinnati Faculty Research Support Grant
2007	Recipient, University of Cincinnati Faculty Research Support Grant
2004-2006	Recipient, American Heart Association (Ohio Valley) Beginning Grant-In-Aid
2001-2003	Recipient, American Heart Association (Ohio Valley) Beginning Grant-In-Aid
1999-2001	Recipient, American Heart Association (Ohio Valley) Postdoctoral Fellowship
1994	Young Investigator Award, the Third Shock Conference of China Pathophysiology Society
1993	Merit Award for Academic Excellence of Ph.D. candidate, Graduate School, Beijing Medical University
1987	Excellent Graduate Student Award, Graduate School, Hebei Medical College
1986	Medical School Valedictorian, Hebei Medical College

PUBLICATIONS

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CURRICULUM VITAE

WILLIAM SUN, PH.D.

EDUCATION

Ph.D. University of Alberta Alberta, Canada	1992
M.S. Peking Union Medical College Beijing, China	1984
B.S. Chinese Pharmaceutical University Nanjing, China	1982

PROFESSIONAL EXPERIENCE

<i>Associate Laboratory Director</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2015 – Present
<i>Contractor</i> University of Cincinnati Department of Pathology Cincinnati, OH	2014 – 2015
<i>Research Instructor</i> University of Cincinnati Department of Pathology Cincinnati, OH	2003 – 2008
<i>Research Associate</i> Children's Hospital Research Foundation Cincinnati, OH	1998 – 2003
<i>Postdoctoral Fellow</i> Children's Hospital Research Foundation Cincinnati, OH	1994 – 1998
<i>Postdoctoral Fellow</i> University of Alberta Alberta, Canada	1993 – 1994

AWARDS AND HONORS

1987	Ministry of Health of China Award, Ministry of Health, Peoples Republic of China.
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1990 Faculty of Medicine 75th Anniversary Award, University of Alberta, Canada.
1996-1999 Postdoctoral Fellowship, American Heart Association, Ohio-West Virginia
affiliate, USA.

PUBLICATIONS

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CURRICULUM VITAE

GUANGYUN SUN, PH.D.

EDUCATION

Ph.D. - Forensic Biology and Molecular Genetics) West China University of Medical Sciences, China	1994
M.S. - Animal Cytogenetics Sichuan University, China	1989
B.S. – Zoology Sichuan University, China	1986

PROFESSIONAL EXPERIENCE

<i>Assistant Laboratory Director</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2015 – Present
<i>Senior Research Associate</i> Dept.of Environmental Health, University of Cincinnati Cincinnati, OH	2006 - 2015
<i>Research Associate</i> Dept.of Environmental Health, University of Cincinnati Cincinnati, OH	2001 - 2006
<i>Visiting Scholar</i> Dept.of Environmental Health, University of Cincinnati Cincinnati, OH	1998 - 2001
<i>Associate Professor</i> Dept. of Forensic Medicine, West China University of Medical Sciences Chengdu, China	1996 - 1998
<i>Lecturer</i> Dept. of Forensic Medicine, West China University of Medical Sciences Chengdu, China	1994 - 1996
<i>Assistant teacher</i> Dept. of Forensic Medicine, West China University of Medical Sciences	1989 - 1994

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PUBLICATIONS

Daniel Woo, Guido J. Falcone, William J. Devan ... **Guangyun Sun** ... Jonathan Rosand. Meta-Analysis of Genome-Wide Association Studies Identifies 1q22 as a Susceptibility Locus for Intracerebral Hemorrhage. *The American Journal of Human Genetics* 94, 1–11, April 3, 2014.

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Gregory T. Motz, Bryan L. Eppert, **Guangyun Sun**, Scott C. Wesselkamper,Michael J. Linke, Ranjan Deka, and Michael T. Borchers. Persistence of Lung CD8 T Cell Oligoclonal Expansions upon Smoking Cessation in a Mouse Model of Cigarette Smoke-Induced Emphysema1. *The Journal of Immunology* 2008 vol. 181 no. 11 8036-804.

Karolina Aberg, Feng Dai, **Guangyun Sun**, Ember Keighley, Subba Rao Indugula, Linda Bausserman, Satupaitea Viali, John Tuitele, Ranjan Deka, Daniel E Weeks, Stephen T McGarvey. A genome-wide linkage scan identifies multiple chromosomal regions influencing serum lipid levels in the population on the Samoan islands. *Journal of lipid research*. 08/2008; 49(10):2169-78.

Karolina Aberg, **Guangyun Sun**, Diane Smelser, Subba Rao Indugula, Hui-Ju Tsai, Matthew S Steele, John Tuitele, Ranjan Deka, Stephen T McGarvey, Daniel E Weeks. Applying novel genome-wide linkage strategies to search for loci influencing type 2 diabetes and adult height in American Samoa. *Human biology*. 05/2008; 80(2):99-123.

Feng Dai, Ember D. Keighley, **Guangyun Sun**, Subba Rao Indugula, Sarah T. Roberts, Karolina Åberg, Diane Smelser, John Tuitele, Li Jin, Ranjan Deka, Daniel E. Weeks, Stephen T. McGarvey. Genome-wide scan for adiposity-related phenotypes in adults from American Samoa. *International Journal of Obesity*. 2007 Dec 31 (12): 1832-42

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K. Åberg, F. Dai, **G. Sun**, E. D. Keighley, S. R. Indugula, S. T. Roberts, Q. Zhang, D. Smelser, S. Viali, J. Tuitele, L. Jin, R. Deka, D. E. Weeks, S. T. McGarvey. Susceptibility loci for adiposity phenotypes on 8p, 9p and 16q in American Samoa and Samoa. *Obesity(submitted in 2008)*

BM. Chakraborty¹, Hee S. Lee, M Wolujewicz, J Mallik, **Guangyun Sun**, Kim N. Dietrich, Amit Bhattacharya, Ranjan Deka and Ranajit Chakraborty. Low Dose Effect of Chronic Lead Exposure on Neuromotor Response Impairment in Children is moderated by Genetic Polymorphisms. *J. Hum. Ecol.*, 23(3): 183-194 (2008).

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D. Smelser, **G. Sun**, H-J. Tsai, X. He, M. Wolujewicz, R. Indugula, J. Woo, J. Tufa, S. Viali, S. McGarvey, D.E Weeks, R. Deka. Polymorphisms in the HNF-1 β , IGF1R, UCP1, GCK and ADR β 3 loci show significant association with type 2 diabetes in the Samoan population. *Diabetes (supplement 2)*, 2002.51(2): A268

Meiyun Wu, **Guangyun Sun**, Daixin Huang, Lin Zhang, Yubo Chen. Allele frequency distributions for four VNTR loci in the Chinese Han. *Journal of Forensic Sciences* , 2001,46(2): 416

B.Mohan Reddy, **Guangyun Sun**, Dutta Ranjan, and R. Deka. STR data for the Amp-FISTR Profiler-Plus loci among Golla population of Southern Andhra Pradesh, India. . *Journal of Forensic Sciences (USA)*, 2001,46(3): 734-735

Tsai H-J, **Guangyun Sun**, Weeks DE, McGarvey ST, Kaushal R, Wolujewicz M, Deka R. Type 2 diabetes and calpain-10 gene polymorphisms in Samoans. *The American Journal of Human Genetics*,69: 1236-1244,2001

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Ranjan Deka, **Guangyun Sun**, Jonathan Wiest, Diane Smelser, Su Chunhua, Yixi Zhong and Ranajit Chakraborty. Patterns of Instability of Expanded CAG Repeats at the ERDA1 Locus in General Populations. *The American Journal of Human Genetics*, 65:192-198, 1999

Ranjan Deka, **Guangyun Sun**, Diane Smelser, Yixi Zhong, Marek Kimmel and Ranajit Chakraborty. Rate and Directionality of Mutations and Effects of Allele Size Constraints at Anonymous, Gene-Associated, and Disease-Causing Trinucleotide Loci. *Molecular Biology and Evolution (USA)*, 16(9): 1166-1177,1999

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Wu Meiyun and **Guangyun Sun**. Analysis of the VNTR locus DXS52 by Amp-FLP technique. *Journal of Forensic Sciences (USA)*, 1996.41(5): 859-861

Guangyun Sun and Wu Maeiyun. Polymorphic analysis of D4S95 and DXS52 loci in a Chinese Han population by the Amp- FLP technique. *Chinese Journal of Medical Genetics*, 1996,13(5):284-288

Jing Qiang,**Guangyun Sun** and Wu Meiyun. Amplified fragment length polymorphism analysis of the ApoB 3' locus in Chinese of Han population,Chengdu.*Chinese Journal of Blood Transfusion*, 1995,8(3): 174-177

Chen Lin, **Guangyun Sun** and Wu Meiyun.Polymorphic analysis of the D17S30 locus in a Chinese Han population by the polymerase chain reaction.*Chinese Journal of Medical Sciences*, 1995, 12(2): 85-88

Guangyun Sun, Xu YunXiou and Wu Meiyun. Effects of some physical and chemical factors on both human hair DNA and results of sex determination by PCR. *Journal of West China University of Medical Sciences*, 1995,26(3): 311-314

Chen Lin, **Guangyun Sun** and Wu Meiyun. . Influence exerted by environmental and physicochemical factors on the results of sex identification of human dental pulp by polymerase chain reaction. *Journal of West China University of Medical Sciences*, 1994,25(3): 253-258

Guangyun Sun, Chen Lin and Wu Meiyun. Fast detection of Alu DNA in human tissues by Alu-PCR. *Journal of West China University of Medical Sciences*, 1994,25(4): 398-401

Guangyun Sun, Chen Lin and Wu Meiyun. Polymorphic analysis of the D1S80 locus in a Chinese Han population by the PCR method. *Chinese Journal of Medical Genetics*, 1994,11(3): 148-152

Chen Lin, **Guangyun Sun** and Wu Meiyun. Direct PCR amplification from whole blood, without DNA extraction. *Chinese Journal of Medical Genetics*, 1992,9(6): 352-353

Wu Meiyun and **Guangyun Sun**. Human bloodstain identification using DNA amplification technique. *Journal of West China University of Medical Sciences*, 1992,23(3): 248-250

Xu Yunxiou, **Guangyun Sun** and Wu Meiyun. Sex identification of human dental pulp by DNA amplification technique in vitro. *Journal of Forensic Medicine (Shanghai,China)*,1992,8(2):54-55

Wu Meiyun and **Guangyun Sun**. The application of DNA amplification technique in vitro in forensic medicine practice. *Chinese Journal of Forensic Medicine (Beijing, China)*, 1991,6 (2): 68-69

Guangyun Sun and Wu Meiyun. Human sex identification of dried bloodstains by PCR technique. *Journal of West China University of Medical Sciences*, 1990, 21 (3): 271-273

Wu Meiyun and **Guangyun Sun**. Human hair sex identification by analysis of amplified DNA sequences. *Journal of Forensic Medicine (Shanghai, China)*, 1991, 7:1-3

Guangyun Sun, Cheng Wengyuan, Wang Zishu and Wang Xizhong. Restriction endonuclease banding of buffalo metaphase chromosome, *Hereditas (Beijing, China)*, 1990,12(3):17-19

Guangyun Sun, Cheng Wengyuan, Wang Zishu and Wang Xizhong. A study on the G-banding of Dechang buffalo chromosome. *Hereditas (Beijing, China)*, 1991, 13(4): 13-16

Guangyun Sun, W. Cheng, Wang Zishu and Yu Guixin. Studies on the nucleolar organizers (NORs) in buffalo chromosomes, *Journal of Southwest Nationalities College, China*.1990, 16 (3): 18-22

Books

1. Contributed: *"Blood Group Serology and Examination of Physical Evidence"*. Yunnan National Publication House, China, 1990
2. Contributed: *"Forensic Biology"*, Sichuan University Publication House, 2006

Note: Sichuan University and West China University of Medical Sciences merged as Sichuan University in 2001

CURRICULUM VITAE

JESSICA DADE, PH.D.

EDUCATION

Ph.D. – Molecular Genetics University of Cincinnati Cincinnati, Ohio	2016
B.S. – Biology Oakwood University Huntsville, AL	2009

PROFESSIONAL EXPERIENCE

<i>Assistant Laboratory Director</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2016 - Present
<i>Graduate Research Assistant</i> Department of Molecular Genetics, Microbiology and Biochemistry University of Cincinnati Cincinnati, Ohio	2010 - 2016

PUBLICATIONS

Dade J, DuBois JC, Pasula R, Donnell AM, Caruso JA, Smulian AG, & Deepe GS *HcZrt2*, a zinc responsive gene, is indispensable for the survival of *Histoplasma capsulatum in vivo*” *Medical Mycology* (2016) (Manuscript accepted and in press)

DuBois, J., Pasula, R., **Dade, J.**, Smulian, A. Yeast Transcriptome and *In Vivo* Hypoxia Detection Reveals *Histoplasma capsulatum* Response to Low Oxygen Tension. *Medical Mycology* 2015 October PMID: 26483436

Stehling-Sun, S., **Dade J.**, Nutt S., DeKoter, R. P., and Camargo F.D. Regulation of lymphoid versus myeloid fate ‘choice’ by the transcription factor Mef2c. 2009. [Online Publication] *Nature Immunology*. 25 January PMID: 19169261

Dade J. Bioinformatics Key to Cancer Discoveries. 2013. [Online Publication] healthnews.uc.edu. 30 May. Source: <http://healthnews.uc.edu/news/?/22673/>.

CURRICULUM VITAE

PRIYA KUMAR, PH.D.

EDUCATION

Ph.D. – Biology Miami University Oxford, OH	2014
B.A. – Education Indraprastha University New Delhi, India	2005
M.S. – Zoology University of Delhi New Delhi, India	2003
B.S. – Zoology University of Delhi New Delhi, India	2001

PROFESSIONAL EXPERIENCE

<i>Assistant Laboratory Director</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2017 - Present
<i>Postdoctoral Research Fellow</i> Division of Endocrinology, Cincinnati Children's Hospital Medical Center Cincinnati, OH	2015 – 2017
<i>Adjunct Assistant Professor</i> University of Cincinnati Blue Ash, OH	2016
<i>Graduate Research Assistant, Biology</i> Miami University Oxford, OH	2006 - 2008

AWARDS, FELLOWSHIPS, GRANTS

- Awarded the Joint -Council of Scientific and Industrial Research -University Grants Commission Junior Research Fellowship (CSIR-UGC-JRF) -India Jan 2004. This is a national level exam for teaching positions at Universities and for PhD programs in India.
- Received the academic challenge research grant (ACRG) funded by the Dept. of Biology, Miami University, January 2014.
- Selected in the top 10 participants in the 3-minute Thesis Competition (3MT) held by the Graduate School, Miami University Oxford, OH, March 2014.

PROFESSIONAL AFFILIATIONS

Society for Neuroscience (SFN), 2006- 2009.
American Society for Cell biology (ASCB) 2008- 2014.
National Postdoctoral Association (NPA), 2015-2017.
Endocrine Society, 2016.

PUBLICATIONS

Kumar P.L. and James P.F. 2015. Identification and characterization of methylation-dependent DNA regulatory elements in the human SLC9B1 gene. **Gene**. 561(2): 235-248.

Kumar D.L., **Kumar P.L.** and James P.F. 2016. Methylation-dependent and independent regulation of Na,K-ATPase alpha 4 gene (Atp1a4) expression. **Gene**. 575(2): 339-352.

Kumar D.L., **Kumar P.L.**, Walczak R., Wagner B.D., Hummler E and James P.F. ENaC alpha is dispensable for sperm motility and fertility. **Journal of Physiological Sciences**. **(Submitted)** (Equal contribution paper).

Salcedo C., **Kumar P. L.**, Hwa V and Dauber A. IMAGE and related undergrowth syndromes: The complex spectrum of gain-of-function CDKN1C mutations. **Pediatric Endocrinology Reviews**. March 2017, 14:3.

CURRICULUM VITAE

MARIA ALEJANDRA GUTIERREZ, PH.D.

EDUCATION

Ph.D. – Systematic, Cytogenic, Phytochemical, and Pharmacological Studies National University of Cordoba Argentina	2011
B.S. – Pharmacy National University of Cordoba Argentina	2003
B.S. – Biochemistry, Microbiology National University of Cordoba Argentina	2001

PROFESSIONAL EXPERIENCE

<i>Assistant Laboratory Director</i> DNA Diagnostics Center, (DDC) Fairfield, OH	2017 – Present
<i>Laboratory Supervisor</i> Sorenson Genomics – Identigene Inc. Salt Lake City, UT	2015 – 2016
<i>Principal Scientist</i> Cytozyme Inc. Salt Lake City, UT	2012 - 2014
<i>Laboratory Scientist/Quality Control</i> Cytozyme Inc. Salt Lake City, UT	2011 – 2012
<i>Research Scientist</i> University of Utah, Department of Biology Salt Lake City, UT	2008 - 2009

PUBLICATIONS

- Gutiérrez, Alejandra, Gloria E. Barboza & L. Mentz. 2006. *Solanum delicatulum* (Solanaceae): Nueva cita para Argentina y Paraguay y su sinonimia. *Darwiniana* 44(2): 508--□513.
- Gutiérrez, Alejandra. 2006. Malpigiaceae, en Barboza, G. E., J. J. Cantero, C. O. Nuñez & L. Ariza Espinar (eds.), *Flora medicinal de la Provincia de Córdoba. Pteridófitas y Antófitas silvestres o naturalizadas*: 852--□856. Museo Botánico de Córdoba, Argentina.
- Gutiérrez, Alejandra & Gloria E. Barboza. 2006. Martyniaceae, en Barboza, G. E., J. J. Cantero, C. O. Nuñez & L. Ariza Espinar (eds.), *Flora medicinal de la Provincia de Córdoba. Pteridófitas y Antófitas silvestres o naturalizadas*: 887--□889. Museo Botánico de Córdoba, Argentina.
- Gutiérrez, Alejandra. 2006. Portulacaceae, en Barboza, G. E., J. J. Cantero, C. O. Nuñez & L. Ariza Espinar (eds.), *Flora medicinal de la Provincia de Córdoba. Pteridófitas y Antófitas silvestres o naturalizadas*: 970--□978. Museo Botánico de Córdoba, Argentina.
- Gutiérrez, Alejandra & Gloria E. Barboza. 2006. Valerianaceae, en Barboza, G. E., J. J. Cantero, C. O. Nuñez & L. Ariza Espinar (eds.), *Flora medicinal de la Provincia de Córdoba. Pteridófitas y Antófitas silvestres o naturalizadas*: 1120--□1124. Museo Botánico de Córdoba, Argentina.
- Gutiérrez, Alejandra & Gloria E. Barboza. 2006. Viscaceae, en Barboza, G. E., J. J. Cantero, C. O. Nuñez & L. Ariza Espinar (eds.), *Flora medicinal de la Provincia de Córdoba. Pteridófitas y Antófitas silvestres o naturalizadas*: 1160--□1164. Museo Botánico de Córdoba, Argentina.
- Gutiérrez, Alejandra. 2006. Zygophyllaceae, en Barboza, G. E., J. J. Cantero, C. O. Nuñez & L. Ariza Espinar (eds.), *Flora medicinal de la Provincia de Córdoba. Pteridófitas y Antófitas silvestres o naturalizadas*: 1164--□1175. Museo Botánico de Córdoba, Argentina.

CURRICULUM VITAE

JESSICA WAGONER, PH.D.

EDUCATION

Ph.D. Genetics, Genomics and Development Department of Molecular Biology and Genetics Cornell University, Ithaca, NY	2016
Bachelor of Science (<i>with Honors</i>) Department of Molecular Genetics The Ohio State University, Columbus, OH	2008

PROFESSIONAL EXPERIENCE

<i>Assistant Laboratory Director</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH 45014	2017 – Present
<i>Graduate Research Assistant</i> Department of Molecular Biology and Genetics Cornell University, Ithaca NY	2008 - 2015
<i>Undergraduate Research Assistant</i> Department of Molecular Genetics The Ohio State University, Columbus, OH	2007 - 2008

PUBLICATIONS

Wagoner, J.A., Sun, T., Lin, L., and Hanson, M.R. (2015). Cytidine deaminase motifs within the DYW domain of two pentatricopeptide repeat-containing proteins are required for site-specific chloroplast RNA editing. J. Biol. Chem. jbc.M114.622084.

CURRICULUM VITAE

JULIE A. HEINIG, Ph.D.

EDUCATION

On-Line Coursework University of Florida Structure and Function of Nucleotides Scientific Evidence and Statistics	2003
Ph.D. – Anatomy and Cell Biology University of Toronto Toronto, Ontario	2001
M.S. – Zoology University of Toronto Toronto, Ontario	1993
B.S. – Honours Biology University of Toronto Scarborough, Ontario	1988

PROFESSIONAL EXPERIENCE

<i>Assistant Laboratory Director, Forensics</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2003 – Present
<i>Senior Forensic Scientist/DNA Analyst</i> Cuyahoga County Coroner's Office Cleveland, OH	1998 – 2002
<i>Instructor, Department of Life Sciences</i> University of Toronto Scarborough, Ontario	1996
<i>Teaching Assistant</i> University of Toronto Scarborough, Ontario	1989 - 1994
<i>Research Technician II</i> Bedford Institute Dartmouth, Nova Scotia	1991

PROFESSIONAL ASSOCIATIONS

American Academy of Forensic Sciences (2000 – Present)
Association of Forensic Quality Assurance Managers (2003 – 2007)
Midwestern Association of Forensic Scientists (1999 – 2007)

AWARDS

Open Scholarship University of Toronto	1998
Seminar Series Award for Best Speaker University of Toronto	1994
Open Scholarship University of Toronto	1992
Scarborough College Graduate Student Award University of Toronto	1991

SPECIALIZED TRAINING/CONFERENCES ATTENDED

Innocence Network Conference
Atlanta, GA
April 16-18, 2010

Promega 20th International Symposium on HID
Fairfield, OH
October 30, 2009

Ancestry DNA/DNA Witness (Mike Shiver, Ph.D.)
Fairfield, OH
October 7, 2009

Ohio Innocence Project
Cincinnati, OH
August 17, 2009

Innocence Network Conference
Houston, TX
March 20-22, 2009

Mitochondrial DNA Testing at AFDIL (Mike Coble, Ph.D.)
Armed Forces DNA Identification Laboratory
Fairfield, OH
March 10, 2009

STR Analysis in Forensic Casework and Paternity Testing
Workshop on Y-STR Mixtures (Cassie Johnson, M.S.)
Fairfield, OH
March 5, 2009

AAFS 61st Annual Meeting
Denver, CO
February 18-20, 2009

Promega 19th International Symposium on HID
Hollywood, CA
October 13-16, 2008

Hamilton County Coroner, Educate the Living, Dr. Odell Owens, M.D.
Fairfield, OH
March 12, 2008

Review of International Society for Forensic Genetics Meeting, Copenhagen
Fairfield, OH (Thomas Reid, Ph.D.)
September 6, 2007

Applications of Directional Cell Migration (P. Lepont, Ph.D.)
Fairfield, OH
June 29, 2007

Gene Polymorphisms of Natural Killer Cell Receptors (J. Sun, Ph.D.)
Fairfield, OH
June 1, 2007

The Role of DNA in Forensics and Mass Tragedies (Dr. Conneally, Ph.D.)
Fairfield, OH
May 18, 2007

Internalization and Metabolic Activation of E. Coli O157:H7 (L. Farris)
Fairfield, OH
May 11, 2007

Forensic e-Symposium, Human Identification
Profiling of Degraded and Low Amounts of DNA
On-Line, March 27, 2007

DDC Workshop
American Society of Human Genetics, AABB, Promega, MAFS
Fairfield, OH
November 10, 2006

Validation and Application of a Duplex qPCR Assay (Dr. L. Maddox)
Fairfield, OH
October 16, 2006

MAFS 36th Annual Meeting
Indianapolis, IN
October 9-13, 2006

ABI Real Time 7500 Training – Chemistry and Software (Catherine Caberello)
Fairfield, OH
August 17, 2006

DNA View and Kinship (Dr. Charles Brenner)
Fairfield, OH
August 14, 2006

ABI Real Time 7500 – Installation and Training (Greg LaCrosse)
Fairfield, OH
August 8, 2006

Testing Fundamentals and Preparation for Trials (Dr. R. Cotton)
Fairfield, OH
May 17, 2006

ABI Trends Meeting
Cincinnati, OH
April 5, 2006

Promega 16th International Symposium on HID
Dallas, TX
September 25-29, 2005

National Association of Criminal Defense Lawyers Conference
New Orleans, LA
February 10, 2005

ABI 310 Training and GeneMapper v 3.2 (Catherine Caberello)
Fairfield, OH
January 18, 2005

Paternity Testing (Dr. Chakraborty)
Fairfield, OH
April 2, 2004

SNPs (Applied Biosystems)
Fairfield, OH
February 27, 2004

Profitable Exhibiting & Better Booth Staffing (Skyline Exhibits)
Springdale, OH
February 5, 2004

National CODIS Conference
Lansdowne, VA
November 3-6, 2003

Association of Forensic Quality Assurance Managers (AFQAM) Conference
Indianapolis, IN
October 6-9, 2003

Trends in Forensic DNA Technology
Cincinnati, OH
August 26, 2003

NFSTC Accreditation for Forensic Testing
Compliance with ISO/IEC 17025 & DAB Standards
Fairfield, OH
June 9-10, 2003

Real Time PCR Seminar (Catherine Caberello)
Fairfield, OH
April 3, 2003
AAFS 55th Annual Meeting
Chicago, IL
February 19-21, 2003

3100 Training (Carol Schurzinger, ABI)
Fairfield, OH
January 14-15, 2003

Performance Level Auditing for the Crime Laboratory Workshop
Richfield, OH
April 17-18, 2002

CODIS Meeting (Ohio BCI & I)
Richfield, OH
March 11, 2002

CODIS Workshop (Cindy Shannon)
Cuyahoga County Coroner's Office
Cleveland, OH
April 4, 2001

Bloodstain Pattern Analysis Workshop
Cuyahoga County Coroner's Office (Toby Wolson)
Cleveland, OH
November 13-17, 2000

Microscopy Training Workshop
Cuyahoga County Coroner's Office
Cleveland, OH
September 14-15, 2000

STR Workshop – FBI
Cuyahoga County Coroner's Office (Jill Smerick, Debbie Hobson)
Cleveland, OH
June 19, 2000

Mitochondrial DNA Analysis Course
FBI Academy
Quantico, VA
June 5-16, 2000

Mock Trial Training – Expert Testimony in DNA
Cuyahoga County Coroner's Office
Cleveland, OH
April 5, 2000

Short Tandem Repeat Workshop
Cuyahoga County Coroner's Office (Catherine Caberello)
Cleveland, OH
February 6-10, 2000

Mock Trial Training – Expert Testimony in DNA
Cuyahoga County Coroner's Office
Cleveland, OH
July 10, 1999

Short Tandem Repeat Workshop – MAFS
Chicago, IL
March 9-12, 1999

Population Statistics in DNA Analysis
Cuyahoga County Coroner's Office (George Carmody, Jennifer Smith)
Cleveland, OH
December 8-9, 1998

Mock Trial Training – Expert Testimony in Serology and DNA
Cuyahoga County Coroner's Office
Cleveland, OH
November 22, 1998

Forensic Polymerase Chain Reaction Typing Method D1S80
Indianapolis, IN
October 17-20, 1998

EXPERT WITNESS TESTIMONY

2010-Fairfield, OH, Y-STR (defense; deposition)
2010-Covington, KY, STR (defense)
2010-Chagrin Falls, OH, STR (defense)
2010-Toledo, OH, STR (prosecution)
2010-Lafayette, LA, STR/Y-STR (defense)
2010-Fairfield, OH, STR (defense, phone testimony)
2010-Akron, OH, STR (defense)
2009-Fort Myers, FL, Y-STR (prosecution)
2009-Cuyahoga County, Cleveland, OH, Y-STR (prosecution)
2009-Wilmington, OH, STR (defense)
2009-Lake City, FL, Y-STR (defense)
2009-Cincinnati, OH, STR/Y-STR (defense)
2009-Lake City, FL, Y-STR (defense)
2009-Cincinnati, OH, STR (prosecution)
2009-Fort Myers, FL, Y-STR (prosecution, deposition)
2009-Fairfield, OH, STR (defense)
2009-New York, NY, STR/Y-STR (defense)
2009-St. Petersburg, FL, Y-STR (prosecution)
2009-Cuyahoga County, Cleveland, OH, Y-STR (prosecution)
2008-Fort Myers, FL, Y-STR (prosecution)
2008-Iron Mountain, MI (defense)
2008-Washington, DC, STR (defense)
2008-Fairfield, OH, Y-STR (deposition, criminal)
2008-Davenport, IA (defense)
2008-Cuyahoga County, Cleveland, OH, Y-STR (prosecution)
2008-Toledo, OH, Y-STR (defense)
2007-Cuyahoga County, Cleveland, OH, Y-STR (prosecution)
2007-Prestonburg, KY (defense)
2007-Whitman County, WA (jury trial; testify by phone; defense)
2007-Pontiac, IL, Y-STR (prosecution)
2007-Cuyahoga County, Cleveland, OH, Y-STR (prosecution)
2007-Washington, DC (defense)
2006-Cuyahoga County, Cleveland, OH, Y-STR (prosecution)
2006-Lima, OH (defense)
2006-Cincinnati, OH (deposition; civil matter)
2006-Hamilton County, Cincinnati, OH (juvenile court; defense)
2005-Lucas County, Toledo, OH (defense)
2005-Naval Station, Bremerton, WA, Y-STR (prosecution)
2005-Hamilton County, Cincinnati, OH (defense)

PUBLICATIONS

Heinig, J.A. (2007) *The Use and Significance of Y-STR Testing*, The DDC Link: Forensic Newsletter, Fall 2007.

Heinig, J.A. (2007) *DNA from Fingerprints*. Columbus Bar Association; Lawyer's Quarterly, Fall 2007.

Heinig, J.A. (2007) *One DNA Test...Many Interpretations....Reasonable Doubt?* The DDC Link: Forensic Newsletter, July 2007.

Heinig, J.A. (2007) *DNA from Fingerprints*. The DDC Link: Forensic Newsletter, April 2007

Youson, J.H., Heinig, J.A., Khanam, S.F., Sower, S.A., Kawauchi, H., and Keeley, F.W. (2006) Patterns of proopiomelanocortin and proopiocortin gene expression and immunohistochemistry for gonadotropin-releasing hormones (1GnRH-I and III) during the life cycle of a nonparasitic lamprey: Relationship to this adult life history type. *Gen Comp Endo*, 148: 54-71.

Heinig, J.A. (2005) *DNA from Fingerprints*. Northern Kentucky Bar Association, August/September 2005.

Heinig, J.A., Keeley, F.W., Kawauchi, H., and Youson, J.H. Expression of proopiocortin and proopiomelanotropin during the life cycle of the sea lamprey (*Petromyzon marinus*). *J. Exp. Zool.* 283: 95-101.

Filosa, M.F., Adam, I., Robson, P., Heinig, J.A., Smith, K., Keeley, F.W., and Youson, J.H. (1999) A partial clone of the gene for AS protein of the lamprey *Petromyzon marinus*: A member of the albumin supergene family whose expression is restricted to the larval and metamorphic phases of the life cycle. *J. Exp. Zool.* In Press.

Ficele, G., Heinig, J.A., Kawauchi, H., Youson, J.H., Keeley, F.W., and Wright, G.M. (1998) Spatial and temporal distribution of proopiomelanotropin (POM) and proopiocortin (POC) mRNA during development of the sea lamprey: a qualitative and quantitative in situ hybridization study. *Gen. Comp. Endocrinology*, 110: 212-225.

Heinig, J.A., Keeley, F.W., Robson, P., Sower, S.A., and Youson, J.H. (1995) The appearance of proopiomelanocortin early in vertebrate evolution: Cloning and sequencing of POMC from a lamprey pituitary cDNA library. *Gen. Comp. Endocrinology*, 99: 137-144.

PRESENTATIONS

Peterson, J.W., Baird, M.L., Reid, T.M., Karemer, C.M., Hodge, D.M., Schuh, C.M., Deickhoner, C.L., Ahmed, M.B., Heinig, J.A., Kahsar, M.D., Lee, S.C., and Lee, R.F. (2005) DDCPlex™: The Use of Additional STR Loci for Solving Difficult Parentage and Sibship Tests. Promega 16th International Symposium on HID. Dallas, TX. September 25-29, 2005.

Gamble, R.L., Suzuki, K., Heinig, J.A., Youson, J.H., Keeley, F.W., and Sower, S.A. (1997) Isolation of cDNA encoding the precursor to lamprey gonadotropin-releasing hormone-I from the brain of the sea lamprey, *Petromyzon marinus*. Proceedings of the XIIIth International Congress of Comparative Endocrinology, Nov. 16-21, 1997. Yokahama, Japan. Advances in Comparative Endocrinology, S. Kawashima and S. Kituyama, eds. Monduzzi Editore, Bologna, pp. 735-738.

Heinig, J.A., Youson, J.H., and Keeley, F.W. (1996) Expression of two forms of POMC (proopiomelanocortin) during metamorphosis and sexual maturation of the lamprey. The FASEB Journal, Vol. 10 (No. 3). Presented at Experimental Biology '96, Washington, D.C., April 16-20, 1996.

Heinig, J.A., Keeley, F.W., and Youson, J.H. (1994) Sequence of a POMC cDNA clone from lamprey pituitary. American Zoologist, Vol. 34 (No. 5). Presented at American Society of Zoologists, St. Louis, MO, January 4-8, 1995.

Heinig, J.A. and Youson, J.H. (1991) Freeze fracture and morphometric analyses of zonulae occludentes in the anterior intestinal epithelium of adult lampreys during osmoregulation. Developmental Biology, Vol. 45 (No. 2). Presented at American Association of Anatomists, New York, NY, March 11-15, 1992.

CURRICULUM VITAE

CHRISTOPHER M. KRAEMER

EDUCATION

B.S. – Biology University of Cincinnati Cincinnati, OH	2001
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PROFESSIONAL EXPERIENCE

<i>Director, Laboratory Operations</i> DNA Diagnostics Center (DDC) Fairfield, OH	2018 - Present
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<i>Manager, Laboratory, Corporate Compliance and Safety</i> DNA Diagnostics Center (DDC) Fairfield, OH	2016 - 2018
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<i>Senior Laboratory Manager</i> DNA Diagnostics Center (DDC) Fairfield, OH	2012 - 2016
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<i>Technical Supervisor</i> DNA Diagnostics Center (DDC) Fairfield, OH	2002 - 2012
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<i>Lead Technologist</i> DNA Diagnostics Center (DDC) Fairfield, OH	2001 – 2002
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<i>Laboratory Technologist</i> DNA Diagnostics Center (DDC) Fairfield, OH	1998 – 2001
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<i>Laboratory Technician</i> DNA Diagnostics Center (DDC) Fairfield, OH	1997 – 1998
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PUBLICATIONS

Reid, T.M., Ingala, D.A., Kraemer, C.M., Dage, W.M., Dieckhoner, C., Fortman, J.F., Hodge, D.M., Johnson, K.L., Oatman, C., Schlotman, H., Schuh, C., and Baird, M.L. Distribution of

HUMACTBP2 (SE33) alleles in three North American populations. J. Forensic Science, 48: 1422-1423, 2003.

Reid, T.M., Wolf, C.A., Kraemer, C.M., Lee, S.C., Baird, M.L., and Lee, R.F. Specificity of sibship determination using the ABI Identifiler multiplex system. J. Forensic Science, 49: 1262-1264, 2004.

Peterson, J.W., Reid, T.M., Kraemer, C.M., Ingala, D.A., Baird, M.L., Lee, S.C., and Lee, R.F. Distribution of Penta B, Penta C, and Penta E alleles in Asian, Black, Caucasian, and Hispanic populations. J. Forensic Science, 50: 966-968, 2005.

CURRICULUM VITAE

TODD LEWIS, PH.D

EDUCATION

Doctor of Philosophy: Biomedical Sciences Wright State University Dayton, OH	2017
Master of Business Administration Wright State University Dayton, OH	2015
Bachelor of Science: Biology Wright State University Dayton, OH	2010

PROFESSIONAL EXPERIENCE

<i>Quality Assurance Manager</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2018 - Present
<i>Clinical Research Associate</i> Medpace Cincinnati, OH	2016 - 2018
<i>Graduate Research Assistant</i> Wright State University Dayton, OH	2010 to 2016
<i>Business Owner</i> Pinnacle Painting Company Kettering, OH	2002 to 2010

PUBLICATIONS

Liu G., Chen X., Gao Y., Lewis T., Barthelemy J., and Leffak M. (2012). Altered replication promotes instability of DMPK (CTG)_n • (CAG)_n repeats. Mol Cell Biol 32, 1618-32.

Virts E., Jankowska A., Mackay C., Glaas M., Wiek C., Kelich S., Lottmann N., Kennedy F., Marchal C., Lehnert E., Scharf R., Dufour C., Lanciotti M., Farruggia P., Santoro A., Savasan S., Scheckenbach K., Schipper J., Wagenmann M., Lewis T., Leffak M., Hanenberg H., et al. (2015). AluY-mediated germline deletion, duplication and somatic stem cell reversion in UBE2T defines a new subtype of Fanconi anemia. *Hum Mol Genet* 24:5093-108.

Gadgil R, Barthelemy J, Lewis T, Leffak M. (2016). Replication stalling and DNA microsatellite instability. *Biophys Chem* 10.1016/j.bpc.2016.11.007.

CURRICULUM VITAE

LORI NEFF

EDUCATION

Associate of Applied Science, Medical Laboratory Technology 1991
Clark State Community College
Beavercreek, OH

PROFESSIONAL EXPERIENCE

Director, Government Contracts 2015 - Present
DNA Diagnostics Center Inc. (DDC)
Fairfield, OH

Director Customer Service 2012 - 2015
DNA Diagnostics Center Inc. (DDC)
Fairfield, OH

Director, North American Customer Service 2005 - 2012
Orchid Cellmark Inc.
Dayton, OH

Manager, Specimen Collection Network 2002 - 2005
Orchid Cellmark Inc.
Dayton, OH

Bone Marrow Services Supervisor 1997 - 2002
Orchid Cellmark Inc.
Dayton, OH

Paternity Team Leader 1994 - 1997
Orchid GeneScreen
Dayton, OH

Laboratory Technician 1992 - 1994
Orchid GeneScreen
Dayton, OH

Medical Laboratory Technician 1991 – 1992
Mercer County Joint Township
Coldwater, OH

CERTIFICATIONS

American Society of Clinical Pathology
Board of Registry
Medical Laboratory Technician

MILITARY SERVICE

Hospital Corpsman, HM3
United States Naval Reserve
(Honorable Discharge)

1989 - 1997

CURRICULUM VITAE

SHAUNA FORD

EDUCATION

B.S. Psychology Wright State University Dayton, Ohio	2004
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PROFESSIONAL EXPERIENCE

<i>Manager, Contracts Customer Service and Scheduling</i> DNA Diagnostics Center, Inc. Fairfield, OH	2014- Present
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<i>Team Leader, Customer Service</i> DNA Diagnostics Center, Inc. Fairfield, OH	2013 - 2014
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<i>Specimen Collection Coordinator</i> DNA Diagnostics Center, Inc. Fairfield, OH	2012 - 2013
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<i>Specimen Collection Coordinator</i> Orchid Cellmark Dayton, OH	2009 - 2012
---	-------------

<i>Customer Service Coordinator</i> Orchid Cellmark Dayton, OH	2006 - 2009
--	-------------

<i>Case Management Associate</i> Orchid Cellmark Dayton, OH	2005 - 2006
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CURRICULUM VITAE

SARAH BALLARD

EDUCATION

West Carrollton High School 1992
West Carrollton, OH

PROFESSIONAL EXPERIENCE

Customer Service Account Specialist 2017 – Present
DNA Diagnostics Center, Inc. (DDC)
Fairfield, OH

Scheduling Associate 2012 – 2017
DNA Diagnostics Center, Inc. (DDC)
Fairfield, OH

Scheduling Associate 2009 – 2012
Orchid Cellmark, Inc.
Dayton, OH

Medical Billing and Data Entry Clerk 2007 - 2009
Advanced Medical Equipment
Kettering, OH

Project Manager 1999 - 2006
Lason
Baton Rouge, LA

Loss Prevention 1995 - 1998
Meijer
West Carrollton, OH

CURRICULUM VITAE

KELLIE BUNCH

EDUCATION

High School Diploma Princeton High School Cincinnati, OH	1992
Scarlet Oaks Career Development Center Certification in Business/Executive Administrative Assistant Cincinnati, OH	1992

PROFESSIONAL EXPERIENCE

<i>Team Leader, Scheduling</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2015 - Present
<i>Senior Team Member, Scheduling</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2013 – 2015
<i>Customer Service and Scheduling Representative</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2009 – 2013
<i>Case Management Specialist</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2007 - 2009
<i>Customer Service/Order Entry/Payroll Representative</i> Overhead Door Service Cincinnati, OH	1998 - 2006
<i>Inventory Control/ Accounts Payable/Receivable</i> Robert James Sales Cincinnati, OH	1993 - 1998

CURRICULUM VITAE

JON STRONG

EDUCATION

MBA in Management and Finance Drexel University Philadelphia, PA	1983
Masters, Modern Psychoanalysis Philadelphia School of Psychoanalysis Philadelphia, PA	1980
BA, Psychology and Cognitive Processes University of Pennsylvania Philadelphia, PA	1978

PROFESSIONAL EXPERIENCE

<i>Chief Information Officer</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2018 – Present
<i>Global Delivery Director</i> TEKSystems Global Services, LLC Hanover, MD	2010 – 2012
<i>Principal</i> The Strong Group Princeton, NJ	2008 – Present
<i>Chief Technology Officer/Chief Information Officer</i> MRU Holdings, Inc. New York, NY	2006 – 2007
<i>President</i> The Strong Group Princeton, NJ	1993 - 2006
<i>Director, Management Consulting</i> DMR Group, Inc.	1991 – 1993

Projects Director, Northeast
CAP Gemini America
New York, NY

1989 – 1991

Senior Management Consultant
Touche Ross
Newark, NJ

1986 – 1989

Manager, Interactive Systems
RCA Corporate Staff
Cherry Hill, NJ

1980 -1986

CURRICULUM VITAE

LAUREN ELKINS

EDUCATION

B.S., Organizational Leadership Northern Kentucky University Newport, KY	2013
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PROFESSIONAL EXPERIENCE

<i>Supervisor, Specimen Collection Network</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2018 – Present
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<i>Coordinator, Specimen Collection Network</i> DNA Diagnostics Center, Inc. (DDC) Fairfield, OH	2014 - 2018
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<i>Laboratory Technician</i> CSL Plasma Hamilton, OH	2011 – 2014
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<i>School Nurse's Aid</i> Hamilton City Schools Hamilton, OH	2007 – 2008
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FOR THE RECORD

Thomas M. Reid,¹ Ph.D.; David A. Ingala,¹ B.S.; Christopher M. Kraemer,¹ B.S.; Wendy M. Dage,¹ B.S.; Christine Dieckhoner,¹ B.A.; Joseph Fortman,¹ B.S.; Diana M. Hodge,¹ B.A.; Kristie L. Johnson,¹ B.A.; Carla Oatman,¹ B.S.; Holly Schlotman,¹ B.S.; Christina Schuh,¹ A.A.S.; and Michael L. Baird,¹ Ph.D.

Distribution of HUMACTBP2 (SE33) Alleles in Three North American Populations

POPULATION: North American Black, Caucasian, and Hispanic

KEYWORDS: forensic science, SE33, population genetics, human identification, short tandem repeats

DNA samples were isolated from unrelated individuals from three North American populations: Black, Caucasian, and Hispanic, using a modified alkaline lysis method (1). The SE33 locus was amplified using the PowerPlex[®] ES Monoplex System, SE33 (Promega Corp., Madison, WI) according to the manufacturers recommendations. Amplified DNA was analyzed with an ABI Prism 3100 Genetic Analyzer (Applied Biosystems, Foster City, CA). Population data were analyzed for Hardy-Weinberg equilibrium (2) and other population parameters with DNA-View software, version 25.05 (3). The complete data set is available upon request via e-mail from tmr@dnacenter.com.

¹ DNA Diagnostics Center, Fairfield, OH.

References

1. Rudbeck L, Jorgen D. Rapid, simple alkaline extraction of human genomic DNA from whole blood, buccal epithelial cells, semen and forensic stains for PCR. *Biotechniques* 1998;25:588–92.
2. Gou SW, Thompson EA. Performing the exact tests of Hardy-Weinberg proportion for multiple alleles. *Biometrics* 1992;48:361–72.
3. <http://dna-view.com>

Additional information and reprint requests:

Thomas Reid
DNA Diagnostics Center
205 Corporate Court
Fairfield, OH 45014
E-mail: tmr@dnacenter.com

TABLE 1—*SE33 allele frequencies in three North American populations.*

Allele	Black		Caucasian		Hispanic	
	Number	Frequency	Number	Frequency	Number	Frequency
11					1	0.005
a11.2	1	0.005			1	0.005
12	1	0.005				
13	2	0.01	2	0.01		
13.2	1	0.005				
14	12	0.06	11	0.055	3	0.015
15	8	0.04	10	0.05	6	0.03
16	12	0.06	10	0.05	8	0.04
16.2	1	0.005				
17	18	0.09	7	0.035	28	0.14
18	24	0.12	13	0.065	31	0.155
19	29	0.145	20	0.1	16	0.08
20	18	0.09	10	0.05	12	0.06
20.2	1	0.005	2	0.01	1	0.005
21	10	0.05	6	0.03	9	0.045
21.2			2	0.01	2	0.01
22	3	0.015			1	0.005
22.2	1	0.005	7	0.035	5	0.025
23			1	0.005		
23.2	4	0.02	7	0.035	5	0.025
24	1	0.005				
24.2	3	0.015	13	0.065	6	0.03
25.2	6	0.03	5	0.025	2	0.01
26	2	0.01				
26.2	5	0.025	13	0.065	14	0.07
27.2	10	0.05	10	0.05	12	0.06
28			1	0.005		
28.2	13	0.065	19	0.095	9	0.045
29.2	9	0.045	12	0.06	16	0.08
30.2	4	0.02	9	0.045	5	0.025
31.2			8	0.04	2	0.01
32.2			1	0.005	2	0.01
33	1	0.005	1	0.005	1	0.005
33.2					1	0.005
34					1	0.005
<i>n</i>	200		200		200	

TABLE 2—*SE33 population parameters in three North American populations.*

Parameter	Black	Caucasian	Hispanic
H-W Equilibrium, exact test (<i>p</i>)	0.081	0.080	0.701
Observed Heterozygosity	0.940	0.930	0.940
Expected Heterozygosity	0.927	0.944	0.924
Power of Discrimination (PD)	0.990	0.994	0.989
Power of Exclusion (PE)	0.847	0.882	0.838
Typical Paternity Index (PI)	7.290	8.590	7.310

FOR THE RECORD

John W. Peterson,¹ Ph.D.; Thomas M. Reid,¹ Ph.D.; Christopher M. Kraemer,¹ B.S.; David A. Ingala,¹ B.S.; Michael L. Baird,¹ Ph.D.; Susannie C. Lee,¹ Ph.D.; and Richard F. Lee,¹ Ph.D.

Distribution of Penta B, Penta C, and Penta E Alleles in Asian, Black, Caucasian, and Hispanic Populations

POPULATIONS: Asian, Black, Caucasian, and Hispanic

KEYWORDS: forensic science, Penta B, Penta C, Penta E, short tandem repeats, population genetics, human identification

DNA samples were isolated from unrelated individuals in four populations: Asian, Black, Caucasian, and Hispanic, using a modified alkaline lysis method (1). Alleles at Penta B (HUMUT5805), Penta C (MGC14836), and Penta E loci were amplified using Penta BEC Multiplex Primers according to the manufacturer's recommendations (Promega Corp., Madison, WI). Amplified PCR products were analyzed with an ABI Prism 3100 Genetic Analyzer (Applied Biosystems, Foster City, CA). Population data were analyzed for Hardy-Weinberg equilibrium (2) and other population parameters (3). The complete dataset is available upon request via email from jwp@dnacenter.com.

¹ DNA Diagnostics Center, Fairfield, OH.

References

1. Rudbeck L, Jorgen D. Rapid, simple alkaline extraction of human genomic DNA from whole blood, buccal epithelial cells, semen, and forensic stains for PCR. *Biotechniques* 1998;25:588-92.
2. Schneider S, Roessli D, Excoffier L. Arlequin: A software for population genetics analysis. Version 2.000. University of Geneva, Geneva, Switzerland: Genetics and Biometry Lab, Department of Anthropology, 2000.
3. <http://www.promega.com/geneticidtools/powerstats>

Additional information and reprint requests:
John Peterson, Ph.D.
DNA Diagnostics Center
205 Corporate Court
Fairfield, OH 45014
E-mail: jwp@dnacenter.com

TABLE 1—Penta B allele frequencies among Asian, Black, Caucasian, and Hispanic populations.

Penta B Allele	Asian		Black		Caucasian		Hispanic	
	Number	Frequency	Number	Frequency	Number	Frequency	Number	Frequency
5			1	0.005			1	0.005
6	2	0.009	1	0.005			2	0.010
7	1	0.005	6	0.030			8	0.038
8	1	0.005	20	0.099	6	0.029	3	0.014
9	25	0.115	28	0.139	4	0.019	6	0.029
10	29	0.133	38	0.188	17	0.082	30	0.143
11	35	0.161	22	0.109	36	0.173	55	0.262
12	71	0.326	20	0.099	27	0.130	29	0.138
13	18	0.083	20	0.099	25	0.120	38	0.181
14	26	0.119	13	0.064	36	0.173	20	0.095
15	9	0.041	12	0.059	21	0.101	5	0.024
16	1	0.005	8	0.040	9	0.043	3	0.014
17			8	0.040	11	0.053	4	0.019
18			2	0.010	5	0.024	2	0.010
19			1	0.005	2	0.010		
20			2	0.010	4	0.019		
21					3	0.014		
22							1	0.005
23					1	0.005	1	0.005
24							1	0.005
26					1	0.005	1	0.005
27								
<i>n</i>	218		202		208		210	
H-W Equilibrium, exact test (<i>p</i>)		0.256		0.092		0.485		0.396
Observed Heterozygosity		0.798		0.842		0.875		0.848
Expected Heterozygosity		0.855		0.897		0.895		0.850
Power of Discrimination (PD)		0.935		0.970		0.969		0.953
Power of Exclusion (PE)		0.596		0.678		0.745		0.690
Typical Paternity Index (PI)		2.477		3.156		4.000		3.281

TABLE 2—Penta C allele frequencies among Asian, Black, Caucasian, and Hispanic populations.

Penta C Allele	Asian		Black		Caucasian		Hispanic	
	Number	Frequency	Number	Frequency	Number	Frequency	Number	Frequency
5	12	0.046	7	0.031			6	0.026
7			2	0.009	3	0.013		
8	19	0.073	6	0.027	2	0.009	8	0.035
9	78	0.298	37	0.164	33	0.146	54	0.237
10	17	0.065	12	0.053	15	0.066	15	0.066
11	88	0.336	56	0.248	100	0.442	78	0.342
12	39	0.149	60	0.265	42	0.186	42	0.184
13	6	0.023	39	0.173	29	0.128	21	0.092
14	3	0.011	5	0.022	2	0.009	2	0.009
15			1	0.004			2	0.009
16			1	0.004				
<i>n</i>	262		226		226		228	
H-W Equilibrium, exact test (<i>p</i>)		0.238		0.609		0.329		0.106
Observed Heterozygosity		0.733		0.814		0.726		0.807
Expected Heterozygosity		0.793		0.810		0.733		0.781
Power of Discrimination (PD)		0.908		0.930		0.883		0.904
Power of Exclusion (PE)		0.481		0.626		0.469		0.612
Typical Paternity Index (PI)		1.871		2.690		1.823		2.591

TABLE 3—*Penta E allele frequencies among Asian, Black, Caucasian, and Hispanic populations.*

Penta E Allele	Asian		Black		Caucasian		Hispanic	
	Number	Frequency	Number	Frequency	Number	Frequency	Number	Frequency
5	15	0.059	14	0.059	13	0.058	13	0.058
7	7	0.027	34	0.144	32	0.142	19	0.084
8	2	0.008	52	0.220	1	0.004	3	0.013
9	4	0.016	12	0.051	2	0.009	4	0.018
10	10	0.039	7	0.030	17	0.075	16	0.071
11	41	0.160	14	0.059	36	0.159	21	0.093
12	35	0.137	25	0.106	46	0.204	41	0.181
13	6	0.023	22	0.093	28	0.124	20	0.088
14	7	0.027	16	0.068	9	0.040	17	0.075
15	38	0.148	17	0.072	10	0.044	22	0.097
16	21	0.082	8	0.034	10	0.044	14	0.062
17	22	0.086	10	0.042	10	0.044	14	0.062
18	9	0.035	2	0.008	7	0.031	8	0.035
19	9	0.035	1	0.004			6	0.027
20	16	0.063	2	0.008	4	0.018	4	0.018
21	3	0.012			1	0.004	4	0.018
22	6	0.023						
23	2	0.008						
24	1	0.004						
26	2	0.008						
<i>n</i>	256		236		226		226	
H-W Equilibrium, exact test (<i>p</i>)		0.608		0.562		0.097		0.105
Observed Heterozygosity		0.891		0.907		0.867		0.867
Expected Heterozygosity		0.908		0.891		0.885		0.914
Power of Discrimination (PD)		0.978		0.970		0.966		0.977
Power of Exclusion (PE)		0.776		0.809		0.729		0.729
Typical Paternity Index (PI)		4.571		5.364		3.767		3.767



DDC Direct Connect

DDC Direct Connect: Overview

DDC Direct Connect is DDC's online case management system which provides a means of accessing DNA testing information.

DDC Direct Connect
contracts.dnacenter.com

Added Features:

- Single login for Case status, DNA test reports, documents and scheduling
- Simplified navigation
- Excellent searching capability
- Interactive Retest Authorization process

DDC Direct Connect: Home Page



1-800-310-9868



Direct Connect Login

Home About Us Laboratory Resources

DDC Direct Connect

DDC's online case management and tracking system. This real time interface provides access to the following:

- Case Status and Appointment Information
- eDocuments Download.
- Scheduling Request Entry
- Retest Authorization
- Online Supply Order
- Access to Specimen Collection Manual
- Agency Account Summary Information

All of the above are accomplished with one log in. Access will be set by DDC and requires an individual user ID and password entry, thus ensuring the confidentiality of stored data.

Log into the DDC Direct Connect Portal with username and password.

Login Now

DDC Direct Connect: Login

Enter User ID and Password received in your Welcome email into the appropriate fields on the login page.

Note: *User ID and passwords are case sensitive.*

- On the first login, a window will prompt to reset your password. This is a new security feature for enhanced protection of your account. Please follow all steps. All passwords must contain 6 characters, at least one letter and one number and a special character such as *, \$ or #.



DDC Direct Connect

Please Login

User Name

Password

Forgot Password?

DDC Direct Connect: Case Status / Search Criteria

Tested Party and Case Information can be searched from the Case Status Screen. Searches are performed by entering the data and clicking on the Search button. A minimum of one search criteria is needed to perform a search.

Account:	<input type="text"/>	Tested Party First Name:	<input type="text"/>	Agency Case Number:	<input type="text"/>
Case Status:	<input type="text"/>	Tested Party Last Name:	<input type="text"/>	Docket Number:	<input type="text"/>
Reported Between:	<input type="text"/> and <input type="text"/>	Tested Party Role:	<input type="text"/>	DDC Case Number:	<input type="text"/>
Specimen Collection Date:	<input type="text"/>	Last 4 of SSN:	<input type="text"/>		
Due Date:	<input type="text"/>	Please do not enter any special characters such as dashes, asterisks or apostrophes: -, *			
			<input type="button" value="Clear"/>	<input type="button" value="Search"/>	

Exhibit B
Page 161 of 188
DNA Diagnostics Center

Fill out the fields located at the top portion of the online form, enter the items needed and click “Request Supplies”.


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Scheduling Requests

To enter a new scheduling request, click on the Schedule Tab on the navigator bar.

On this screen, you can add a new request or search for an existing one. Under “Add Request”, you have the ability to add a new request and/or request a Retest Authorization on a previously tested sample.

If you have access to multiple agencies, after clicking Add Request, you will be prompted to choose the requesting agency.

DNA Diagnostics Center

Logged In as: ddouser
[Contact](#) | [Logout](#)

CASE STATUSREQUEST SUPPLIES

SCHEDULE

SETTINGS

Add Request

Add Scheduling Request or Retest Authorization

Add new request or search for an existing request

Search on Request ID, docket, or agency case number.

Show All

Search

Exhibit B
Page 163 of 188
DNA Diagnostics Center

Logged In as: ddcuser
[Contact](#) | [Logout](#)

Scheduling: New Request

The Summary of Parties information is READ ONLY and will update as the Party Detail is completed. There are 3 types of requests for each tested party:

1.To Schedule: This should be selected when DDC is scheduling the appointment (interstate cases or institutional collections).

2.Not Scheduling: This should be selected when DDC is not scheduling the appointment so that we have the complete case information for each party.

3.Retest Prior Case: This type should be chosen when requesting that a previously tested sample be used rather than collecting a new sample

DDC DNA Diagnostics Center

Logged in as: ddouner
Contact | Logout

CASE STATUS REQUEST SUPPLIES SCHEDULE SETTINGS

For help in completing this page, click ?

Caseworker: [Dropdown]

Request #: 68786 Created: 6/05/2014 Status: Incomplete Delete Request

Agency Case #: [Text Box] Comments: [Text Box]

Docket/Authorization #: [Text Box]

Summary of Parties

Schedule?	Data Entry	Role	First Name	Last Name	Missing - First Name- Last Name	Data Error
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Mother			Missing - First Name- Last Name	
<input type="checkbox"/>	<input type="checkbox"/>	Incomplete Child			Missing - First Name- Last Name	
<input type="checkbox"/>	<input type="checkbox"/>	Incomplete Alleged Father			Missing - First Name- Last Name	

Please enter all parties' names that are involved with this case, even if they are not to be collected at this time.

Party Detail

Mother Child Alleged Father

Mother

*Type: [Dropdown] To Schedule [X] Not Scheduling Retest Prior Case

*First: [Text Box] *Last Name: [Text Box] Race: [Dropdown] Copy Last Address Entered

SSN: [Text Box] Address: [Text Box] City: [Text Box] State: [Dropdown] Postal Code: [Text Box] Country: [Dropdown]

☐ Incorporated ☐ Add'l Contact Person

*Required Fields

Add Party Delete Party

Submit

Scheduling: To Schedule

Enter all client information such as name, race, date of birth and social security number (if applicable)

1. Enter Address information - When providing address information for the child, if it is the same address as the mother, select “Copy Last Address Entered” and the system will auto-populate that information
2. Indicate if this tested party is Incarcerated. If so, additional information will appear to enter the Correctional Facility in which they are located, Inmate Number, and release date.
3. Click Submit

DDC DNA Diagnostics Center

Logged In as: ddouser
Contact | Logout

CASE STATUS **REQUEST SUPPLIES** **SCHEDULE** **SETTINGS**

For help in completing this page, click ?

Request #: 68910 **Created:** 6/06/2014 **Status:** Incomplete **Delete Request**

Agency Case #: **Comments:**

Docket/Authorization #:

Summary of Parties

Schedule?	Data Entry	Role	First Name	Last Name	Data Error
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Mother	Missing - First Name- Last Name- City, State, Zip, Country	Missing - First Name- Last Name	Missing - First Name- Last Name
<input type="checkbox"/>	<input type="checkbox"/>	Child	Missing - First Name- Last Name	Missing - First Name- Last Name	Missing - First Name- Last Name
<input type="checkbox"/>	<input type="checkbox"/>	Alleged Father			

Party Detail **Mother** **Child** **Alleged Father** **Add Party**

Please enter all parties' names that are involved with this case, even if they are not to be collected at this time.

To Schedule **Delete Party**

*Type: **To Schedule** **Delete Party**

*First Name: *Last Name: Race:

DOB: MM/DD/YYYY SSN: Copy Last Address Entered

Address:

City: State: Postal Code: Country:

☐ Incarcerated

☐ Add'l Contact Person

*Required Fields

Submit

Scheduling: Not Scheduling

1. Although DDC may not be scheduling the appointment for a particular tested party, we still need the information for the case. Having this information ensures that DDC knows who to test in each case.
2. Enter all client information such as name, race, date of birth and social security number (if applicable)
3. Address information is not required for an individual that DDC is not scheduling
4. Click Submit

DDC DNA Diagnostics Center

Logged in as: ddouser
Contact | Logout

CASE STATUS REQUEST SUPPLIES SCHEDULE SETTINGS

For help in completing this page, click ? Caseworker:

Request #: 68910 Created: 6/06/2014 Status: Incomplete Delete Request

Agency Case #:

Docket/Authorization #:

Summary of Parties

Schedule?	Data Entry	Role	First Name	Last Name	Missing - First Name- Last Name	Data Error
<input type="checkbox"/>	Incomplete	Mother			Missing - First Name- Last Name	
<input type="checkbox"/>	Incomplete	Child			Missing - First Name- Last Name	
<input type="checkbox"/>	Incomplete	Alleged Father			Missing - First Name- Last Name	

Please enter all parties' names that are involved with this case, even if they are not to be collected at this time.

Party Detail

Mother Child Alleged Father

Mother

*Type: Not Scheduling

*First Name: *Last Name: Race:

DOB: MM/DD/YYYY SSN: Copy Last Address Entered

Address: City: State: Postal Code: Country:

☐ Incarcerated

☐ Add'l Contact Person

*Required Fields

Add Party Delete Party

Submit

Scheduling: Retest Prior Case

1. Rather than recollecting an individual, DDC can use the DNA profile from a previously tested sample (where permitted by contract)
2. A tool is provided to search for a previously tested client by searching for the previous Sample ID, agency case number or docket number
3. Client Information will auto-populate when the sample has been found in our system.
4. Address information is not required, or displayed, as DDC will not be scheduling a DNA collection

DDC DNA Diagnostics Center

Logged In as: ddouser
Contact | Logout

For help in completing this page, click ?

CASE STATUS REQUEST SUPPLIES SCHEDULE SETTINGS

Request #: 68910 Created: 6/06/2014 Status: Incomplete Delete Request

Agency Case #: Comments:

Docket/Authorization #:

Summary of Parties

Schedule?	Data Entry	Role	First Name	Last Name	Missing - First Name- Last Name	Terms and Conditions
<input type="checkbox"/>	Incomplete	Mother			Missing - First Name- Last Name	
<input type="checkbox"/>	Incomplete	Child			Missing - First Name- Last Name	
<input type="checkbox"/>	Incomplete	Alleged Father			Missing - First Name- Last Name	

Please enter all parties' names that are involved with this case, even if they are not to be collected at this time.

Party Detail

Mother Child Alleged Father

Mother

*Type: Retest Prior Case Sample ID Agency Case: Docket: Add Party Delete Party

*First Name: *Last Name: Race:

DOB: SSN:

☐ I am a representative of the requesting agency and have authorization to request retest of the above mentioned sample for DNA testing.

*Required Fields

Submit

Scheduling: Retest Prior Case

1. Choose Retest Prior Case
2. Search by Sample ID, Agency Case Number or Docket Number
3. Click on the magnifying glass icon to show the search screen
4. Attached is a search by Sample ID
5. Enter First and Last Name, Tested Party Role, Last 4 of SSN, and/or Date of Birth

DDC DNA Diagnostics Center Logged in as: ddouser
Contact | Logout

CASE STATUS **REQUEST SUPPLIES** **SCHEDULE**

Caseworker: [dropdown]

For help in completing this page, click ?

Request Search

Agency: [dropdown] Docket: [dropdown] Sample ID: [dropdown]

Retest Prior Case [magnifying glass icon]

***Type:** [dropdown] **Agency Case:** [dropdown] **Docket:** [dropdown]

***First Name:** [text] ***Last Name:** [text] **SSN:** [text]

DOB: [text] **MW/DD/YYYY**

Date of Birth: [text] **Last 4 of SSN:** [text] **Search** **Clear**

Please do not enter any special characters such as dashes, asterisks or apostrophes, *

Sample ID **Tested Role** **Tested Names** **Race** **DOB** **Sex** **Last 4 of SSN** **Collection Date**

Party **Mother** **Child** **Alleged Father**

***Required Fields** ☐ I am a representative of the requesting agency and have authorization to request retest of the above mentioned sample for DNA testing.

Submit

Delete Party

Copyright 2014 DNA Diagnostics Center

Scheduling: Retest Prior Case

If you are unable to locate a previously tested sample, there is an option to add this person by clicking “NEW PARTY” at the bottom of the page. This will allow you to manually add the person’s name, date of birth, social security number, etc.

Search

First Name:

Last Name:

Tested Party Role:

Last 4 of SSN:

Date of Birth:

Please do not enter any special characters such as dashes, asterisks or apostrophes: -, *, '.

Clear

Search

Sample ID

Tested Role

Tested Names

Race

DOB

Sex

Last 4 of SSN

Collection Date

Choose a tested party above from your search, or if you are unable to find the party, click on New Party to manually enter in their information.

New Party

If your search is by Agency Case Number, you will find the appropriate case and select into your request. At this point, you have chosen the case but not the person to retest. To find the person needed, click in the Sample ID field to show all individuals tested within that case. The sample ID's are as follows: -10: Mother, -20: Child, -30 Alleged Father.

CASE STATUS

REQUEST SUPPLIES

SCHEDULE

Requests

Request Detail

Click ? for help.

Agency:

Select Agency

Agency:

Select Agency

Caseworker:

Request #:

71156

Created:

6/27/2014

Status:

Incomplete

Comments:

Agency Case #:

Docket/Authorization #:

Delete Request

Summary of Parties

Schedule?	Data Entry	Role	First Name	Last Name	Data Error
<input checked="" type="checkbox"/>	Incomplete	Mother	Missing - First Name-	Last Name-	Terms and Conditions
<input type="checkbox"/>	Incomplete	Child	Missing - First Name-	Last Name	
<input type="checkbox"/>	Incomplete	Alleged Father	Missing - First Name-	Last Name	

Add Party

Please enter all parties' names that are involved with this case, even if they are not to be collected at this time.

Party Detail

Mother

Child

Alleged Father

Mother

*Type:

Retest Prior Case

*First Name:

DOB:

MM/DD/YYYY

*Last Name:

SSN:

Sample ID

Agency Case:

Docket:

Race:

Delete Party

I am a representative of the requesting agency and have authorization to request retest of the above mentioned sample for DNA testing.

☐

*Required Fields

Password Reset

Expired Password: Every 90 days the system will require a new password. Upon the first login after 90 days has passed, a prompt will indicate “Your password has expired. Please enter a new password below.” Once the existing password is entered and confirmed, a message will prompt you to enter your user name and new password.

Forgot Password: This option will prompt you to enter your Email/User Name and the system will send an email with a link to reset your password.



DDC Direct Connect



DDC Direct Connect

Please Login

User Name	<input type="text"/>
Password	<input type="password"/>
Forgot Password?	
<input type="button" value="Login"/>	


Forgot Password

Email	<input type="text"/>
<input type="button" value="Reset Password"/>	
Back to login	

Contact: Email

Enter the following information:

1. FROM field: Enter your Email address
2. SUBJECT field: Enter Subject
3. MESSAGE field: Enter your questions or concerns into the body of the email.
4. Click the CONTACT DDC button.

 DNA Diagnostics Center

Logged In as: ddouser
Contact | Logout

CASE STATUSREQUEST SUPPLIESSCHEDULESETTINGS

To contact us by phone, please call 1-800-310-9868.

For information or help, please fill out the form below.

From:

Subject:

Message:

Phone Number:

Contact DDC

Summary

For questions about the new website, please contact us at **1-800-310-9868**.

We are available **Monday-Friday, 8:00am – 8:00pm Eastern Time**.

Accreditation

DDC/DNA Diagnostics Center – Fairfield, OH

having been assessed by AABB, has been found to meet the requirements of applicable Standards of this organization and therefore is granted this

CERTIFICATE OF ACCREDITATION

for the following activities:

Relationship Testing Activities

In Witness whereof the undersigned, being duly authorized, have caused this Certificate to be issued and the AABB Corporate Seal to be affixed.

Effective Dates

October 01, 2016 - September 30, 2018



President, AABB



Chair, Accreditation Program Committee

CENTERS FOR MEDICARE & MEDICAID SERVICES
CLINICAL LABORATORY IMPROVEMENT AMENDMENTS
CERTIFICATE OF ACCREDITATION

LABORATORY NAME AND ADDRESS
DNA DIAGNOSTICS CENTER
205 CORPORATE COURT
FAIRFIELD, OH 45014

CLIA ID NUMBER
36D0910013

EFFECTIVE DATE
04/13/2018

LABORATORY DIRECTOR
MICHAEL L BAIRD Ph.D.

EXPIRATION DATE
04/12/2020

Pursuant to Section 353 of the Public Health Services Act (42 U.S.C. 263a) as revised by the Clinical Laboratory Improvement Amendments (CLIA), the above named laboratory located at the address shown hereon (and other approved locations) may accept human specimens for the purposes of performing laboratory examinations or procedures.

This certificate shall be valid until the expiration date above, but is subject to revocation, suspension, limitation, or other sanctions for violation of the Act or the regulations promulgated thereunder.



Karen W. Dyer
Karen W. Dyer, Acting Director
Division of Laboratory Services
Survey and Certification Group
Center for Clinical Standards and Quality

157 Certs2_031418

If you currently hold a Certificate of Compliance or Certificate of Accreditation, below is a list of the laboratory specialties/subspecialties you are certified to perform and their effective date:

LAB CERTIFICATION (CODE)
CYTOGENETICS (900)

EFFECTIVE DATE
08/01/2017

LAB CERTIFICATION (CODE)

EFFECTIVE DATE



FOR MORE INFORMATION ABOUT CLIA, VISIT OUR WEBSITE AT WWW.CMS.GOV/CLIA
OR CONTACT YOUR LOCAL STATE AGENCY. PLEASE SEE THE REVERSE FOR
YOUR STATE AGENCY'S ADDRESS AND PHONE NUMBER.
PLEASE CONTACT YOUR STATE AGENCY FOR ANY CHANGES TO YOUR CURRENT CERTIFICATE.



The College of American Pathologists
certifies that the laboratory named below

**DDC/DNA Diagnostics Center
Laboratory**

Fairfield, Ohio

Michael L. Baird, PhD

CAP Number: 6701701

AU-ID: 1109722

CLIA Number: 36D0910013

has met all applicable standards for accreditation and is hereby accredited by the
College of American Pathologists' Laboratory Accreditation Program. Reinspection
should occur prior to August 31, 2018 to maintain accreditation.

Accreditation does not automatically survive a change in director, ownership,
or location and assumes that all interim requirements are met.

A handwritten signature in black ink, likely belonging to the Chair of the Commission on Laboratory Accreditation.

Chair, Commission on Laboratory Accreditation

A handwritten signature in black ink, likely belonging to the President of the College of American Pathologists.

President, College of American Pathologists



CERTIFICATE OF ACCREDITATION

ANSI-ASQ National Accreditation Board

500 Montgomery Street, Suite 625, Alexandria, VA 22314, 877-344-3044

This is to certify that

DNA Diagnostics Center / DDC
One DDC Way
Fairfield, OH 45014

has been assessed by ANAB
and meets the requirements of international standard

ISO/IEC 17025:2005

while demonstrating technical competence in the field of

TESTING

Refer to the accompanying Scope of Accreditation for information regarding the types of tests to which this accreditation applies.

AT-1299

Certificate Number


ANAB Approval

Certificate Valid: 12/20/2017-12/21/2019
Version No. 002 Issued: 12/20/2017



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

DNA Diagnostics Center / DDC

One DDC Way

Fairfield, OH 45014

Karen Miller 513-881-7800 Ext. 2269

Dr. Michael Baird 513-881-7800 Ext. 2276

kmiller@dnacenter.com www.dnacenter.com

TESTING

Valid to: December 21, 2019

Certificate Number: AT-1299

Biological

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Paternity / Biological Relationship Testing DNA Testing-STR Analysis	Internal Procedure -- PAT-2000 DNA extraction Amplification by Polymerase Chain Reaction (PCR) Capillary electrophoresis	Biological Samples, Non-biological samples containing cellular material and DNA	Thermal Cycler ABI 3730 Genetic Analyzer
Mitochondrial Analysis Sequence analysis SNP analysis	DNA extraction Amplification by PCR Sequencing by chain termination Capillary electrophoresis Internal Procedure --MSP-3000	Buccal Swabs	Thermal Cycler ABI 3730 Genetic Analyzer



Biological

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Key Equipment or Technology
Y-STR DNA Analysis DNA Testing-STR Analysis	DNA extraction Amplification by PCR Capillary electrophoresis Internal Procedure –PCR-3017 / 3016	Biological Samples, Non-biological samples containing cellular material and DNA	Thermal Cycler ABI 3730 Genetic Analyzer
X-STR DNA Analysis DNA Testing-STR Analysis	DNA extraction Amplification by PCR Capillary electrophoresis Internal Procedure –PCR-3025	Biological Samples, Non-biological samples containing cellular material and DNA	Thermal Cycler ABI 3730 Genetic Analyzer

Note:

1. This scope is formatted as part of a single document including Certificate of Accreditation No. AT-1299.

R. D. S.
Vice President

CERTIFICATE OF ACCREDITATION



Standards Council of Canada
Conseil canadien des normes

CERTIFICAT D'ACCREDITATION

DDC/DNA DIAGNOSTICS CENTER
1 DDC Way Fairfield, OH
45014 USA

having been assessed by the Standards Council of Canada (SCC) and found to conform with the requirements of ISO/IEC 17025:2005 and the conditions for accreditation established by SCC is hereby recognized as an

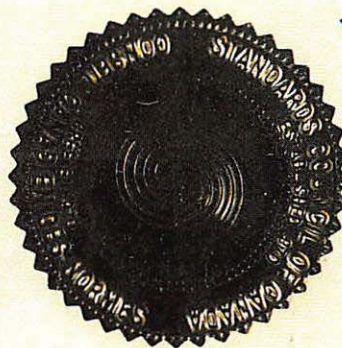
ayant fait l'objet d'une évaluation réalisée par le Conseil canadien des normes (CCN), et été jugé conforme aux exigences énoncées dans ISO/CEI 17025:2005 et aux conditions liées à l'accréditation établies par le CCN, est de ce fait reconnu comme étant un

ACCREDITED TESTING LABORATORY

for the specific tests or types or tests listed in the scope of accreditation approved by SCC and found on the SCC website at www.scc.ca.

LABORATOIRE D'ESSAIS ACCRÉDITÉ

pour les essais ou types d'essais énumérés dans la portée d'accréditation approuvée par le CCN et figurant dans le site web du CCN au www.ccn.ca.



Accredited laboratory number: / Numéro de laboratoire accrédité : 730

Accreditation date: / Date d'accréditation : 2012-01-05

Issued on: / Délivré le : 2015-12-21

Expiry date: / Date d'expiration : 2020-01-05

This certificate is valid until the date of expiration unless suspended, withdrawn or superseded by SCC. / Le présent certificat est valide jusqu'à la date d'expiration, à moins qu'il ne soit suspendu, retiré ou remplacé par le CCN.

[Signature]
Vice-President – Accreditation Services / Vice-présidente – Services d'accréditation

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. The accreditation demonstrates technical competence for a defined scope and the implementation of a laboratory quality management system (refer to part ISO/ILAC-JAF communiqué daté du 1er janvier 2009).

Ce laboratoire est accrédité conformément à la Norme internationale reconnue ISO/IEC 17025:2005. Cette accréditation démontre la compétence technique d'un organisme pour une portée définie et la mise en œuvre d'un système de management de la qualité de laboratoire (cf. communiqué conjoint ISO-ILAC-JAF date du 1er janvier 2009).

This certificate is the property of the Standards Council of Canada (SCC) and must be returned on request; reproduction is prohibited except on written approval of SCC.
Ce certificat est la propriété du Conseil canadien des normes (CCN) et doit lui être remis sur demande; toute reproduction est interdite sans l'autorisation écrite du CCN.

Canada

New York State Department of Health

PFI: 5894

Clinical Laboratory Permit

CLIA: 36D0910013

DNA Diagnostics Center

One DDC Way

Fairfield OH 45014

Director:

Michael L. Baird, Ph.D.

Owner:

DNA Diagnostics Center, Inc

is hereby authorized to perform laboratory procedures at the above location in the following categories in accordance with Article 5, Title V, Section 575 of the Public Health Law. This permit shall become void upon a change in the director, owner or location of the laboratory, and an application for a new permit shall be made to the Department.

*Forensic Identity
Parentage/Identity Testing*

Renewal

Effective Date: July 1, 2018

Expiration Date: June 30, 2019

Subject to Revocation

Permit Not Transferable

POST CONSPICUOUSLY

Serial: LAP 102234

NATA Accredited Laboratory

National Association of Testing Authorities, Australia
(ABN 59 004 379 748)

has accredited

DNA Diagnostics Center Inc

following demonstration of its technical competence
to operate in accordance with

ISO/IEC 17025

This facility is accredited in the field of

FORENSIC SCIENCE

for the tests, calibrations and measurements shown on the
Scope of Accreditation issued by NATA



Jennifer Evans
Chief Executive Officer

Date of accreditation: 26 February 2014
Accreditation number: 19334



WORLD RECOGNISED
ACCREDITATION

NATA is Australia's government-endorsed laboratory accreditor, and a leader in accreditation internationally.
NATA is a signatory to the international mutual recognition arrangements of the International Laboratory
Accreditation Cooperation (ILAC) and the Asia Pacific Laboratory Accreditation Cooperation (APLAC).

Scope of Accreditation



ACCREDITATION NO: 19334

DNA Diagnostics Center

One DDC Way
Fairfield,
Ohio 45014 UNITED STATES

CONTACT: Ms Karen Miller
PHONE: 1800 831 1906 FAX: 1800 310 9746 MOBILE: 513 675 2308
EMAIL: kmiller@dnacenter.com
WEB SITE:

FACILITIES: Public testing service

18.20 DNA testing
.01 Parentage testing
.02 Kinship testing

Accreditation No: 19334
(Scope Last Changed 04/03/14)



American Society of Crime Laboratory Directors Laboratory Accreditation Board

*declares to all Advocates of Truth, Justice and the Law that the
management and technical operations of the*

DNA Diagnostics Center Forensic Services

One DDC Way
Fairfield, Ohio 45014

*have been found through assessment to meet the requirements of
ISO/IEC 17025:2005*

*"General Requirements for the Competence of Testing and Calibration Laboratories"
the ASCLD/LAB-International Supplemental Requirements for Testing Laboratories: 2011
and all other requirements of the*

ASCLD/LAB-International,
program, and is granted this

Certificate of Accreditation

in the field of

Forensic Science Testing

*for the categories of testing listed on the corresponding
Scope of Accreditation*

David Coffman
David Coffman, ASCLD/LAB Chair

John K. Neuner
John K. Neuner, Executive Director

Laurel J. Farrel
Laurel J. Farrel, Senior Accreditation Program Manager

Troy Hamlin
Troy Hamlin, Accreditation Program Manager-Testing

Certificate Number

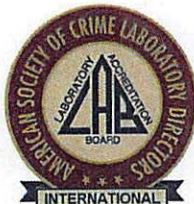
ALI-012-T

granted this

26th day of May, 2015

which expires on the

25th day of May, 2019



American Society of Crime Laboratory Directors / Laboratory Accreditation Board

ASCLD/LAB-*International* Program

SCOPE of ACCREDITATION

Corresponds to
Certificate Number

ALI-012-T

Name and Address of Accredited Laboratory

DNA Diagnostics Center
Forensic Services
One DDC Way
Fairfield, Ohio 45014

Laboratory Contact Information

Dr. Michael Baird, Director
Phone: 513-881-7806, ext. 2276
Fax: 800-406-1940
E-Mail: mbaird@dnacenter.com

The management and technical operations of this laboratory were assessed and found to conform with **ISO/IEC 17025:2005**, the **ASCLD/LAB-*International* Supplemental Requirements for Testing Laboratories (2011)** and all other requirements of the ASCLD/LAB-*International* program. The laboratory was found to be competent and was accredited in the following area (s):

Field of Accreditation

Forensic Science Testing

Discipline (s)

3.0 Biology

Categories of Testing:

- 3.1 DNA - Nuclear
- 3.3 Body Fluid Identification

Customers Served: The DNA Diagnostics Center Forensic Services is a private laboratory and the service area of the laboratory is not restricted to any geographical boundaries.

Accreditation Dates

Date Granted: May 26, 2015

Date Expires: May 25, 2019

Date Last Updated: No Updates

Troy Hamlin
Accreditation Program Manager-Testing
ASCLD/LAB

DNA Test Report

1234567
13PA001234

Fresno County, CA USA

DDC is accredited/certified by AABB, CAP, ACLASS-International, ISO/IEC 17025, CLIA, NYSDOH & ASCLD/LAB-International.

Case 1251351 Name		MOTHER JANE DOE		CHILD BABY DOE		ALLEGED FATHER JOHN DOE	
Race		Black				Black	
Date Collected		01/04/2018		01/04/2018		01/04/2018	
Test No.		1251351-10		1251351-20		1251351-30	
Locus	PI	Allele Sizes		Allele Sizes		Allele Sizes	
D3S1358	1.67	16	18	15	16	15	16
vWA	7.20	17	18	18	19	17	19
D16S539	3.61	11	13	13		12	13
CSF1PO	1.82	10		10	12	8	12
TPOX	1.54	11		8	11	8	9
D8S1179	2.46	14	16	14	15	13	15
D21S11	9.62	28	29	27	28	27	28
D18S51	4.38	15	16	16	18	18	20
D2S441	2.94	11	14	11		11	
D19S433	3.58	10	13.2	13	13.2	13	
TH01	3.54	7	8	8	9	7	9
FGA	4.87	20	26	20	25	19	25
D22S1045	1.57	11	16	11	16	11	14
D5S818	2.07	12	13	13		12	13
D13S317	2.16	10	12	10	12	12	
D7S820	4.80	11		11		11	
SE33	4.17	16	26.2	16	18	18	19
D10S1248	3.86	15		12	15	12	14
D1S1656	1.95	14		14		14	15.3
D2S1338	9.00	19	21	16	19	16	22
Amelogenin		X		X		X	Y

Interpretation:

Combined Paternity Index: **21,780,137,396**

Probability of Paternity: **99.99999995%**

The alleged father is not excluded as the biological father of the tested child. Based on testing results obtained from analyses of the DNA loci listed, the probability of paternity is 99.99999995%. This probability of paternity is calculated by comparing to an untested, unrelated, random individual of the Black population (assumes prior probability equals 0.50).

Subscribed and sworn before me on January 6, 2018.

I, the undersigned Laboratory Director, verify that the interpretation of the results is correct as reported on 01/06/2018.

Signature

Signature

Donna L. Dougherty
Notary Public, State of Ohio
My Commission Expires May 8, 2018

Michael L Baird, Ph.D.
Jessica Dade, Ph.D.
John W. Peterson, Ph.D.
Joy Johnson, Ph.D.
Yong Ji, Ph.D.

Alejandra Gutierrez, Ph.D.
William Sun, Ph.D.
Debra L. Davis, Ph.D.
Priya Kumar, Ph.D.
Guangyun Sun, Ph.D.

DNA Test Report

1234567
13PA001234

Fresno County, CA USA

DDC is accredited/certified by AABB, CAP, ACLASS-International, ISO/IEC 17025, CLIA, NYSDOH & ASCLD/LAB-International.

Case 1251351 Name		MOTHER JANE DOE		CHILD BABY DOE		ALLEGED FATHER JOHN DOE	
Race		Black				Black	
Date Collected		01/04/2018		01/04/2018		01/04/2018	
Test No.		1251351-10		1251351-20		1251351-30	
Locus	PI	Allele Sizes		Allele Sizes		Allele Sizes	
D3S1358	0.00	16	18	18		16	17
vWA	0.00	18		17	18	19	20
D16S539	0.00	11	12	12	13	11	
CSF1PO	0.00	11		11		9	10
TPOX	0.00	7	8	8	11	6	9
D8S1179	0.00	15		15	17	15	
D21S11	0.00	28	30	28	36	29	32.2
D18S51	0.00	17	18	17		12	16
D2S441	0.00	11		11	13	12	
D19S433	0.00	13.2	15	15		11	14.2
TH01	0.95	7	9	7	9	6	7
FGA	0.00	23		23	25.2	24	25
D22S1045	1.07	15	16	15	16	11	16
D5S818	0.00	10	11	10	12	11	13
D13S317	2.31	12		12		12	
D7S820	2.40	9	10	10	11	8	11
SE33	0.00	16	26.2	16	18	28.2	30.2
D10S1248	2.02	12		12	13	12	13
D1S1656	0.00	11	12	12	13	15	16
D2S1338	0.00	17	22	17	19	17	26
Amelogenin		X		X	Y	X	Y

Interpretation:

Combined Paternity Index: **0**

Probability of Paternity: **0%**

The alleged father is excluded as the biological father of the tested child. This conclusion is based on the non-matching alleles observed at the loci listed above with a PI equal to 0. The alleged father lacks the genetic markers that must be contributed to the child by the biological father. The probability of paternity is 0%.

Subscribed and sworn before me on January 6, 2018.

I, the undersigned Laboratory Director, verify that the interpretation of the results is correct as reported on 01/06/2018.

Signature

Signature

Donna L. Dougherty
Notary Public, State of Ohio
My Commission Expires May 8, 2018

Michael L Baird, Ph.D.	Alejandra Gutierrez, Ph.D.
Jessica Dade, Ph.D.	William Sun, Ph.D.
John W. Peterson, Ph.D.	Debra L. Davis, Ph.D.
Joy Johnson, Ph.D.	Priya Kumar, Ph.D.
Yong Ji, Ph.D.	Guangyun Sun, Ph.D.



Explanation of Results

Introduction to the DNA Testing Process

DNA (Deoxyribonucleic acid) is the genetic material found in the cells of your body. A person receives half of his/her genetic material, or DNA, from the biological mother and the other half from the biological father. DNA can be extracted from a few drops of blood or cheek cells. DNA testing is based on a highly accurate analysis of the genetic profiles of the mother, child, and alleged father. Using this type of testing, conclusive results regarding parentage can be achieved.

DNA paternity testing is performed through PCR-based analysis. PCR analysis starts with a process that amplifies specific areas of an individual's DNA for further examination. These specific areas (called genetic loci) contain regions of the DNA known as short tandem repeats (STRs)—short, repeating units of DNA. The number of repeats at each genetic locus is variable and is inherited from the biological parents. Each person typically has two *alleles* (alternate forms of the DNA which may have different repeats), one inherited from the biological mother and one inherited from the biological father. The alleles detected from the PCR analysis are listed as numbers in the report and represent the number of repeats detected. If the same allele is inherited from each parent, then only one allele, or number, is listed on the report.

How do I Interpret the Paternity Test Results?

The paternity test results show the allele sizes for the mother (if tested), child, and alleged father. When all three are tested, the alleles that the child received from the biological father (called the obligate paternal alleles) can be determined by subtracting the mother's contribution to the child's DNA. If the alleged father does not have the obligate paternal alleles at three or more loci, he is excluded as the biological father of the child. If only a child and alleged father are tested, and they do not share any common alleles at three or more loci, the alleged father is also **excluded**. When the alleged father contains the obligate paternal alleles at all loci tested, then he is **not excluded** as the biological father of the child.

Paternity Index

The Paternity Index (PI) is the genetics odds in favor of the alleged father being the biological father of the child. A PI is calculated for each DNA locus and is listed in the report. The PI for each locus is calculated as the chance of the alleged father contributing the obligate paternal allele versus a random, untested, unrelated man in the population. The Combined Paternity Index (CPI) is calculated by multiplying individual Paternity Indices. For example, if the CPI is 100,000, this means that the tested alleged father is 100,000 times more likely to be the biological father of the child than an untested, unrelated, random man in the population. If the alleged father is excluded at three or more loci, the PI at the excluded loci is 0 and the CPI is 0, indicating that the data is consistent with the exclusion of the alleged father as the biological father.

Occasionally, test results show a non-match for one or two loci. This may indicate mutations (explained below); it may also indicate that a close biological relative of the alleged father (such as a brother, father, or son) may be the biological father of the child. Additional calculations can be performed to help address this possibility. However, it is always best to have all possible alleged fathers tested to establish the true biological father.

Probability of Paternity

The Probability of Paternity (expressed as a percentage) is calculated from the CPI and indicates the chance of paternity based on the complete DNA test results. In order to convert the CPI to a percentage, we used a "prior probability of paternity" of 0.5 in the calculation. This prior probability is a neutral value (without bias) that assumes the alleged father is as equally *likely to be* as he is *not to be* the child's biological father.

A DNA test result with a 0% probability of paternity means that the alleged father is **excluded**, or cannot be the biological father. A probability value of 99% and above means that the alleged father is most likely the biological father.

Mutations

Occasionally, an alleged father will not have the obligate paternal allele at one or two loci. Such results could be the result of a mutation in the DNA. When this occurs, it may be necessary to perform additional analysis to determine whether the alleged father is excluded or not excluded as the biological father. If no additional loci exclude the alleged father as the biological father after additional analysis, a PI reflecting the mutation rate is listed on the report and a CPI and Probability of Paternity is calculated.

Siblingship Analysis

DNA testing can also be used to determine the likelihood of individuals being related as siblings. The DNA of two possible siblings is compared to determine if there are any common alleles between the two. At each DNA locus, two people may share 0, 1, or 2 alleles, whether the two are siblings or not. Any matching alleles are analyzed to determine the statistical chance that the people in question would share that DNA if they were siblings, compared to the chance if they were unrelated. Based on this statistical analysis, the relative chance that two people are full-siblings or half-siblings can be calculated. It is important to note that it is not possible to determine with 100% certainty whether or not two people are definitely siblings; only whether they are likely or not likely to be siblings.

DDC's Laboratory is Fully Accredited by:

BB Accredited



EOR-4000 101021-JW