

-- **MITOCHONDRIAL DNA DISCOVERY REQUEST** --

INTRODUCTION

This is a request for disclosure of scientific materials pertaining to mitochondrial DNA (mtDNA) testing performed in the case of [case name] ([County, Case Number]). This request applies to all mtDNA tests which have been, are currently being, or will be performed in the instant case. The request is ongoing. In the event that new materials responsive to this request are produced, discovered, or otherwise come into the possession of the prosecution or its agents, said materials should be provided to the defendant without delay.

If more than one laboratory handled, or had custody of samples tested in this case this request should, by the People, be addressed to each such laboratory. The People should also address this request to any laboratory that handled or had custody of samples before or after mtDNA testing. Relevant laboratories include, but are not limited to crime labs, commercial DNA testing facilities and government DNA testing facilities.

THE REQUESTS

It is requested that copies of the following materials be provided to the defendant. The defendant also requests that the original materials be made available for inspection in order to compare the copies with the original materials that are in the possession of the prosecution or its agents.

In order to preserve the integrity of data files, whenever possible please provide electronic copies of computerized data files in a 'read-only' format, such as CD-ROM. In the event that a back-up or other retrieval program (such as Retrospect) is necessary to read the electronic data files, please identify program used (name of software program, manufacturer and version number) and provide instructions necessary for retrieval of data files.

1. **Case file:**

Please provide a legible copy of the complete case file including all records of DNA testing in the instant case. For materials that are represented in any format other than black and white paper copies, please provide copies which are equivalent in content and quality to the originals (that is, electronic copies of computerized data files, photographic quality copies of photographs, etc.). In the event that any of these items cannot be provided due to loss, destruction or inability to locate the files or documents in question, please provide an explanation for the non-production of the item in question (see request #16 below).

2. **Documents relied upon in performing testing:**

Please provide legible copies of all documents which were, or are claimed to have been, followed or relied upon in executing DNA testing, setting up and using instruments, interpreting data and/or reporting the DNA tests performed in the instant case (in the event that it is claimed that specific documents cannot be provided because it is claimed that they are proprietary or otherwise commercially available, please identify the document by name, date, publisher/manufacturer and version), including:

- (2.1) Standard operating protocols (SOPs) of the DNA testing laboratory.
- (2.2) Documents relied upon in interpreting results, including the standard for declaring matches in cases in which heteroplasmy is inferred, or in which there are one or more base pair mismatches between samples that are declared to match.
- (2.3) Instructions, protocols and/or manuals relating to test kits, instruments and software programs (including package inserts, user's guides and/or user's manuals).

3. **Commercial Test kits**

Please identify all commercial test kits used in the instant case, including those used in DNA extraction, DNA quantification, PCR amplification and sequencing. For each test kit, please provide name of kit, manufacturer and lot number(s).

4. **Instruments and laboratory equipment:**

Please provide a list of all instruments used in the instant case, including those used in DNA extraction, DNA quantification, PCR amplification, sequencing and interpretation. For each instruments, please provide; name of instrument, manufacturer, model number and serial number(s). For air filtration hoods, please identify filter types.

5. **Software Programs:**

Please provide the following for each software programs used in the instant case, including those used in DNA quantification, PCR amplification, sequencing, interpretation and statistical calculation (i.e., accessing the database with zero or one or more mismatches, see request #12 below):

- (5.1) For commercially available software programs which were used unmodified in this case, please provide name of software program, manufacturer and version number.
- (5.2) For commercially available software programs which were modified in any way in the testing undertaken in this case, please provide either, (i) a copy of the modified software item or, (ii) a detailed list of the changes or modifications which were made with regard to the software item as used in this case.
- (5.3) In the event that non-commercial software items (program, macro or other item) were used in the testing in this case, please provide a copy of that software item, including supporting documentation.

6. **Quality Assurance/Quality Control:**

Please provide copies of the testing laboratory's quality assurance and quality control manuals, including those covering the following areas (insofar as they are addressed in a written document):

- (6.1) Laboratory contamination, including physical and procedural precautions taken to monitor, minimize and remedy contamination (including treatment of reagents, glassware and laboratory surfaces).
- (6.2) The use of control samples, including reagent blanks, amplification controls and any other control samples used by the testing laboratory, target values for controls (when applicable) and the guidelines used for interpreting control samples (e.g., level of contamination 'acceptable' in negative controls).
- (6.3) The use and maintenance of pipets and micropipets, including the type of pipet tips used (e.g. whether aerosol resistant), precautions for use, monitoring for contamination, method and frequency of decontamination, schedule for calibration.
- (6.4) Maintenance and monitoring of all instruments, including thermal cycler, genetic analyzer, water baths, heat blocks, refrigerators and freezers.
- (6.5) Testing of critical supplies, reagents and test kits, including evaluations of lots and/or batches.
- (6.6) Requirements for specialized laboratory clothing, including, lab coats, masks, gloves, etc. (i.e. what required, when and where).

7. **Primers**

Please provide the following information for all primers used in the testing in this case. In the event that primer sequences are published, please provide a cite to the appropriate scientific paper.

- (7.1) Please identify all primers and primer sets used for PCR amplification and sequencing.
- (7.2) Please provide the DNA sequences for each primer.

8. **Laboratory facilities**

Please provide a plan of the testing facilities identifying designated work areas (e.g. DNA extraction area, pre-amplification and post amplification work areas).

9. **Persons have access to testing laboratory:**

Please provide the following information for all persons who have access to the DNA testing laboratory, including laboratory personnel, clerical staff, cleaning staff and support staff:

- (9.1) Name
- (9.2) Job description
- (9.4) The areas within the laboratory to which this person has access (see laboratory plan item #8 above).
- (9.3) Mitochondrial DNA type.

10. **Chain of custody and current disposition of evidence:**

Please provide copies of all chain of custody documents for each item of evidence subjected to DNA testing starting with the first description or 'log entry' for each item through to the current disposition of that item of evidence. This information should include documentation which indicates where and how the materials were stored (temperature and type of container), the amount of evidence material which was consumed in testing, the amount of material which remains, and where and how the remaining evidence is stored (temperature and type of container).

11. **Database:**

Please provide the following materials with regard to the database used in this case.

- (11.1) An electronic copy of the database (i.e. CD-rom).
- (11.2) Documentation which established the source of the samples included in the database.
- (11.3) Documentation which establishes membership in different ethnic groups (in the event that the database is divided by ethnicity).
- (11.4) Documentation of the procedures taken to prevent blood relatives from contributing to the database.
- (11.5) Documentation of all instances in which a sample has been deleted from the database since the database was first created, indicating: (i) the number of samples deleted, (ii) the identity of the samples deleted, and (iii) the reason the sample was deleted.

12. **Matching and tolerance of mismatches:**

Please provide all documentation which establishes or describes the testing laboratory's standards for declaring matches between samples exhibiting one or more base pair mismatches, including the statistical approach applied to such matches and any software program utilized to generate statistical estimates in such instances.

13. **Electronic data files:**

Please provide copies of all electronic data files used and created in the course of performing the testing and analyzing the data in this case, including data files produced during quantification, sequencing or statistical analysis. These files should include all data necessary to, (i) independently reanalyze the raw data and (ii) reconstruct the analysis performed in this case. In the event that any of these items cannot be provided due to loss, destruction or inability to locate the file(s) in question, please provide an explanation for the non-production of the item in question (see request #16 below).

14. **Genetic Analyzer trouble-shooting/service call records:**

Please provide copies of any laboratories records or other materials which document any trouble-shooting, repairs, modifications or changes which were made to the genetic analyzer (or DNA sequencer) used in the instant case.

15. **Instances of laboratory contamination:**

Please provide copies of all documents pertaining to any outbreak(s) or incident(s) of contamination using PCR-based DNA tests at the [name of Crime Lab], and the corrective action(s) taken to rectify any such incident(s) (materials may be redacted to prevent compromising the confidentiality of other cases).

16. **Items destroyed, lost or otherwise unavailable:**

In the event that any item requested in this document cannot be provided due to any reason, including but not limited to, (i) destruction of the requested item, and/or, (ii) loss or inability to locate the requested item, please provide a written explanation as to why the item cannot be provided. In the event that any requested item has been destroyed, please provide copies of any internal memos or other documentation which authorizes the destruction of this type of item of evidence.

17. **Developmental validation:**

Please provide copies of any developmental validation studies pertaining to the specific DNA test(s) performed in this case (pursuant to TWGDAM/SWGDAM Guidelines 4.1, 4.2 and 4.4 and DAB Standards 8.1.1 and 8.1.2), including developmental validation studies conducted by the testing laboratory and any additional developmental validation studies relied upon by the testing laboratory in claiming that the test has been adequately validated pursuant to TWGDAM/SWGDAM and DAB. These materials should include copies of laboratory notebooks, computer data files, unpublished scientific papers and citations to published scientific papers.

18. **Internal validation:**

Please provide copies of any internal validation studies pertaining to the specific DNA test(s) performed in this case (pursuant to TWGDAM/SWGDAM Guideline 4.5 and DAB Standard 8.1.3), including internal validation studies conducted by the testing laboratory and any additional validation studies relied upon by the testing laboratory in claiming that the test has been adequately validated pursuant to TWGDAM/SWGDAM and DAB (including "getting-to-know-the-system" studies). These materials should include copies of laboratory notebooks, computer data files, unpublished scientific papers and citations to published scientific papers.

19. **Proficiency tests:**

For each analyst who performed DNA testing in this case, please provide copies of all DNA proficiency tests using any of the DNA test(s) used in this case. These materials should include for each proficiency test, (i) the complete proficiency test case file, (ii) computer data files, (iii) evaluations and/or reports by the testing agency, and (iv) records maintained pursuant to TWGDAM Guideline 9.3 and DAB Standard 13.1.1.

20. **Accreditation:**

Please provide copies of all licenses or other certificates of accreditation held by the DNA testing laboratory.

21. **Laboratory personnel:**

Please provide a current resume and job description for each person involved in conducting or reviewing the DNA testing performed in this case.