



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

CODIS Standard Operating Procedures Manual

Terms, Abbreviations, Definitions

APPENDIX A: TERMS AND DEFINITIONS

Accreditation

A formal certification indicating that an agency has met or exceeded the required standards established within a specific discipline.

Allele

In classical genetics, an allele refers to one of the alternate forms of a gene at a particular locus. In DNA analysis, the term is commonly extended to include DNA fragments of variable length and/or sequence, which may have no known transcriptional product but are detected in a polymorphic system.

Administrative Removal

The deletion of a DNA record upon verification of the fact that the DNA profile was not or is no longer eligible for inclusion in SDIS and/or NDIS.

Arrestee

A person who has been arrested and in accordance with the law of the state of Tennessee is required to provide a DNA sample for analysis and entry into the state database. The term includes persons who have been charged in a formal criminal instrument, such as an indictment or an information warrant.

Arrestee Index

Consists of DNA records of persons who have been arrested, indicted, or charged in an information with a crime and are required by law to provide DNA samples.

Assessment

A review of a laboratory, conducted by the FBI's CODIS unit, to ensure compliance with NDIS Operational Procedures and Federal/State law with respect to the laboratory's participation in NDIS.

Audit

A systematic and independent examination/evaluation of a laboratory system to determine whether quality control activities/results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve objectives.

AutoSearch

A CODIS program, which automatically searches all DNA profiles in a user specified index against all profiles in one or more other user specified indexes.



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

CODIS Standard Operating Procedures Manual

Terms, Abbreviations, Definitions

Biological Child

The known reference sample voluntarily provided by an adult child or provided with the parental/guardian consent for a minor child of a reported missing person. The DNA profile for this specimen category is stored in the Relatives of Missing Person Index.

Biological Father

The known reference sample voluntarily provided by the biological father of a reported missing person. The DNA profile for this specimen category is stored in the Relatives of Missing Person Index.

Biological Mother

The known reference sample voluntarily provided by the biological mother of a reported missing person. The DNA profile for this specimen category is stored in the Relatives of Missing Person Index.

Biological Sibling

The known reference sample voluntarily provided by the full or half biological adult sibling or provided with the parental/guardian consent of the full or half biological minor sibling of a reported missing person. The DNA for this specimen category is stored in the Relatives of Missing Person Index.

Candidate Match

A possible match between two or more DNA profiles discovered by CODIS software. A qualified DNA analyst from each affected laboratory must verify a candidate match.

Casework CODIS Administrator

An employee of the laboratory responsible for administration and security of the laboratory's CODIS network at a laboratory performing DNA analysis on forensic and casework reference samples.

Casework Laboratory

The laboratory responsible to NDIS for a DNA profile developed from crime scene evidence.

CJIS-WAN

The **C**riminal **J**ustice **I**nformation **S**ystem - **W**ide **A**rea **N**etwork refers to the FBI computer network that allows communication between LDIS, SDIS, and NDIS. This network is a secure intranet that allows data transmission between computers on the closed network.



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

CODIS Standard Operating Procedures Manual

Terms, Abbreviations, Definitions

CMF

Common Message Format is the required format for a data file to be successfully imported into the CODIS database.

CODIS

Combined DNA Index System refers to the entire system of DNA indexes (convicted offender, close biological relatives, forensic, unidentified persons index, missing persons index, and victim index) maintained at the National, State and Local levels as well as population files required to generate population statistics on a given evidentiary profile.

CODIS Administrator

The administrator is the individual(s) responsible for overseeing the CODIS system at the state and/or local levels. Duties may include: organization of CODIS materials, installing software, routine data backup, system QA, and routine local searches. The administrator is also responsible for SDIS and/or NDIS uploading. May be used interchangeably with casework CODIS administrator.

CODIS Comparisons

Comparisons of one DNA record to another for the purpose of establishing an association between two specimens.

CODIS User

A government employee who has login access to the CODIS (state/local) system and is authorized to read/add/modify/delete DNA records in CODIS or is a qualified DNA analyst responsible for producing DNA profiles stored in NDIS.

Composite Profile

A DNA profile generated by combining typing results from different loci obtained from multiple injections of the same amplified evidentiary sample and/or multiple amplifications of the same DNA extract from an evidentiary sample. When separate extracts from a given item are combined prior to amplification, the resulting DNA is not considered a composite profile. Unless there is a reasonable expectation that the sample originated from a common source (e.g. duplicate vaginal swabs), allelic data from separate extractions from different locations on a given evidentiary item should not be combined into a composite profile.

Contract Employee

An individual that provides DNA typing and/ or analytical support services to a NDIS participating laboratory. The person performing these services must meet the relevant qualifications for equivalent position in the NDIS participating Laboratory.



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

CODIS Standard Operating Procedures Manual

Terms, Abbreviations, Definitions

Convicted Offender

A person who has been convicted of a crime(s) in federal, state, and/or local courts where the applicable law permits establishment of a DNA record for the convicted person. The DNA profile is maintained in the convicted offender index

Convicted Offender Index

Consists of DNA records from offenders convicted of qualifying federal and/or state crimes required by the relevant jurisdiction to provide DNA samples.

Core Loci

The STR loci that are required for the upload to NDIS. Currently they include: D3S1358, vWA, FGA, D8S1179, D21S11, D18S51, D5S818, D13S317, D7S820, THO1, TPOX, CS1PO, and D16S539.

Criminal Justice Agency

A federal, state, or local agency, other than the office of the public defender, which performs as a part of its principal function, activities relating to the apprehension, investigation, prosecution, adjudication, incarceration, supervision and/or rehabilitation of criminal offenders.

DAB

The DNA Identification Act of 1994 established the **DNA Advisory Board** to develop and revise the recommended standards for quality assurance. The Board was appointed by the FBI Director in accordance with the DNA Identification Act of 1994.

Database or Databasing

Refers to the analysis of database samples for entry into CODIS and, if eligible, for upload to NDIS.

Databasing Laboratory

The forensic DNA laboratory responsible for a DNA profile developed from a sample provided by an offender or arrestee.

Database sample

A sample obtained from an individual who is legally required to provide a DNA sample for databasing purposes and whose identity is established at the time of collection of the sample.

Deduced Missing Person

The DNA profile of a reported missing person that has been generated by examining intimate items purported to belong to the missing person, such as a toothbrush, and compared to close biological relatives, if possible. Considered a reference sample, this DNA profile is stored in the Missing Person Index.



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

CODIS Standard Operating Procedures Manual

Terms, Abbreviations, Definitions

Designated State Official

The person designated by a participating state to make decisions and to contract on behalf of the state. In Tennessee, the Designated State Official is the Director of the Tennessee Bureau of Investigation.

Disposition

An organizational tool to help classify and manage match results.

DNA

Deoxyribonucleic acid is a nucleic acid that contains the genetic instructions required for the development and functioning of living organisms.

DNA Analyst

An analyst that has successfully completed the laboratory's training requirements, passed a competency test, and has entered into a proficiency testing program in accordance with the FBI's QAS. This individual conducts and/or directs the analysis of samples, interprets data, and reaches conclusions. See also **Qualified DNA Analyst**.

DNA Identification Act

DNA Identification Act of 1994; 42 U.S.C. § 14132 allowed for the creation of an "index to facilitate law enforcement exchange of DNA identification information."

DNA Profile/DNA Type

DNA profile consists of a set of DNA identification characteristics that permit the DNA of one person to be distinguishable from that of another.

DNA Record

The DNA record includes the DNA profile as well as data required to manage and operate NDIS, i.e., the Originating Agency identifier which serves to identify the submitting agency: the Specimen Identification Number: and names of the participating laboratories and DNA personnel associated with DNA profile analysis.

Elimination Sample

A sample from a known individual who may have contributed a DNA profile to a crime scene but is not a perpetrator of the crime (i.e. husband or boyfriend in a sexual assault case). These profiles may not be entered into CODIS.



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

CODIS Standard Operating Procedures Manual

Terms, Abbreviations, Definitions

Expungement

The deletion of a DNA profile at the state and/or national index levels in response to the following: (1) a court order that has overturned a convicted offender's conviction for a qualifying offense; (2) a court order establishing that charges were dismissed or resulted in acquittal, or no charges were filed within the applicable time period.

FBI

The **F**ederal **B**ureau of Investigation Federal agency that acts as Custodian of the CODIS program within the United States.

Forensic Index

The Forensic Index consists of DNA profiles originating from and associated with evidence found at crime scenes. Evidence associated with a crime scene includes DNA that may be carried away from a crime scene.

Forensic Mixture

A specimen category in the CODIS software that is stored in the Forensic Mixture Index and originates from a forensic sample (biological sample found at the scene of a crime) that contains DNA contributed from more than one source attributable to a putative perpetrator(s).

Forensic Mixture Index

A Forensic Mixture Index consists of DNA profiles from forensic samples that contain DNA contributed from more than one source. The Forensic Mixture Index contains Forensic Mixture DNA records.

Forensic Partial

A specimen category in the CODIS software that is stored in the Forensic Partial Index and originates from a single source (or a fully deduced profile originating from a mixture) Forensic Sample attributable to the putative perpetrator with either locus or allelic dropout at any of the 13 CODIS Core Loci.

Forensic Partial Index

A Forensic Partial Index consists of DNA profiles from forensic samples that do not contain results for all 13 CODIS Core Loci and/or that may indicate a possibility of allelic dropout.

Forensic Sample

A biological sample that is found at or associated with the scene of a crime.

Forensic Technician



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

CODIS Standard Operating Procedures Manual

Terms, Abbreviations, Definitions

An individual(s) who performs laboratory duties and does not analyze evidence samples. In this protocol this refers to support personnel assigned to the Serology/DNA Unit.

Forensic Unknown

A specimen category within the Forensic Index which consists of DNA profiles originating from and associated with evidence found at crime scenes that is consistent with a single individual.

Hit

A hit is a confirmed match between two or more DNA profiles discovered by CODIS software at a single instance in time. Hits may occur at any level in the CODIS hierarchy, LDIS, SDIS, or NDIS. Currently there are two categories of hits that are reported to the FBI: A **Forensic Hit** occurs when two or more forensic samples are linked at LDIS, SDIS, or NDIS. Forensic Hits are also referred to as case-to-case hits whereas an **Offender Hit** occurs when one or more forensic samples are linked to a convicted offender sample at SDIS. Offender hits are also called case-to-offender hits.

Index

A collection of data organized for search and retrieval.

Indictment

The formal charge issued by a grand jury stating that there is enough evidence that the defendant committed the crime to justify having a trial; it is used primarily for felonies. (<http://www.uscourts.gov/Common/Glossary.aspx>)

Information

A formal accusation by a government attorney that the defendant committed a misdemeanor. (<http://www.uscourts.gov/Common/Glossary.aspx>)

John Doe Warrant

When the name of a suspect is not known, a John Doe warrant may be filed to prevent the statute of limitation from expiring on a serious violent crime. The DNA profile of the suspect generated during the investigation is used as personally identifiable information rather than the suspect's name.

Keyboard Search

A manual search of CODIS initiated by a CODIS user.

Known Sample (Standard)

Biological material whose identity or type is established. An example of a known sample is one that is contributed by the close biological relative of a missing person.



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

CODIS Standard Operating Procedures Manual

Terms, Abbreviations, Definitions

May also refer to a biological sample, typically blood or buccal, from known individuals used for comparison to samples obtained from a crime scene.

Laboratory

Defined as a facility with at least two full-time employees having and maintaining the capability to perform the DNA analysis of forensic and/or casework reference samples and/or database samples at that facility.

LDIS

The **Local DNA Index System** contains DNA records for searching for DNA matches and for inserting into higher level (such as SDIS and NDIS) CODIS indexes.

Locus

Refers to a specific location on a chromosome; plural loci.

Match

A match occurs when CODIS makes an association between two or more DNA profiles and a confirmation is performed by designated laboratory personnel from each affected laboratory. At the casework laboratory and for the purpose of match evaluation, a high stringency match at all loci may be reviewed and evaluated by an individual who is currently or was previously a qualified DNA analyst. At the casework laboratory, a match at any loci at less than high stringency shall be reviewed and evaluated by a DNA casework analyst currently or previously qualified in the technology being reviewed.

Match Report

After CODIS determines that two or more DNA profiles match, an electronic report is generated by CODIS and automatically distributed to the laboratories responsible for the matching profiles.

Match stringency

Match stringency is used to establish whether or not two DNA profiles are identified as matching. The CODIS software supports three match stringency levels: low, moderate, and high. Low stringency matches occur when one or more alleles match between the target and candidate profiles at a given locus. Moderate stringency matches require all alleles to match, but the target and candidate profiles can contain a different number of alleles. That is, if the target profile has three alleles and the sample profile has two, then two alleles must match. High stringency matches require all alleles to match.

Maternal Relative

The known reference sample voluntarily provided by a maternal biological relative who is not a mother, child, or sibling of a reported missing person. The DNA profile for this specimen category is stored in the Relatives of Missing Person Index.



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

CODIS Standard Operating Procedures Manual

Terms, Abbreviations, Definitions

Missing Person

The known reference sample from an individual that is missing. The source of the DNA has been verified as originating from the missing person and is stored in the Missing Person Index.

Missing Person Index

An Index consisting of DNA records from missing persons (persons reported missing or whose whereabouts are unknown and sought) and deduced victim known.

Mitochondrial DNA

A small circular piece of DNA found outside of the nucleus in most cells and generally involved in the production of proteins responsible for energy production in the body. It is inherited maternally. The TBI does not perform this type analysis at this time.

NCIC

The **N**ational **C**rime **I**nformation **C**enter is a computerized index of criminal justice information available to Federal, State, and Local law enforcement agencies.

NDIS

National **D**N*A* **I**ndex **S**ystem is one component of CODIS - the national and highest level index containing DNA records contributed from participating federal, state and local laboratories. NDIS is administered by the FBI in accordance with the provisions of the DNA Identification Act of 1994, as amended.

NDIS Custodian

The FBI employee(s) responsible for ensuring NDIS is operated in compliance with the DNA Identification Act, the Privacy Act, the NDIS Memorandum of Understanding between the FBI and participating laboratories, and all other relevant legislation/regulations.

NDIS Participant or Participating Laboratory

An NDIS participant can either be the state that signs the NDIS Memorandum of Understanding or any one of the laboratories that the state enters into the NDIS system.

Nuclear DNA

DNA found in the nucleus of the cell. It is inherited from both the mother and father.

Offender

An individual who is required by statute to submit a sample for DNA analysis and databasing. The term includes individuals who are convicted or arrested for a crime or are otherwise required by state or federal law to provide a DNA sample for analysis and databasing.



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

CODIS Standard Operating Procedures Manual

Terms, Abbreviations, Definitions

Offender Laboratory

The laboratory responsible to NDIS for a DNA profile developed from a sample provided by a known offender.

OL(A)

Off Ladder Alleles are those whose values are not represented within the manufacture's ladder.

On-site Visit

A scheduled or unscheduled visit by one or more representatives of the outsourcing laboratory to the vendor laboratory work site to assess and document the vendor laboratory's ability to perform analysis on outsourced casework or databasing.

Outsource Lab

Refers to a laboratory, usually in the private sector, performing DNA analyses under contract to an NDIS participating laboratory. This term may be used interchangeably with **vendor lab**.

Outsourcing

Utilization of a vendor laboratory to provide DNA services in which the NDIS participating laboratory takes or retains ownership of the DNA data for entry into CODIS. Outsourcing does not require the existence of a contractual agreement or the exchange of funds.

PCR

The **Polymerase Chain Reaction** is a scientific technique that amplifies segments of DNA across generating millions of copies of a particular DNA sequence suitable for downstream processes such as forensic DNA analysis via capillary electrophoresis.

Paternal Relative

The known reference sample voluntarily provided by a paternal biological relative who is not a father, child, or sibling of a reported missing person. The DNA profile for this specimen category is stored in the Relatives of Missing Person Index.

Pedigree Tree

A graphical representation of the relationship of a missing person with two or more relatives used in conjunction with relatives of missing persons

Personally Identifiable Information

Information that includes, but is not limited to, names, dates of birth, or social security numbers which are normally used to identify individuals. Personally identifiable



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

CODIS Standard Operating Procedures Manual

Terms, Abbreviations, Definitions

information does not include information derived from the examination of a DNA sample.

Popstats

Stands for population statistics, which is a CODIS software program that enables users to determine the probability of obtaining a DNA profile at random from a given population.

Proficiency Test

Proficiency testing is a quality assurance measure used to monitor performance and identify areas in which improvement may be needed.

Qualified DNA Analyst

A DNA analyst who has satisfied and continues to satisfy the experience, education, training, proficiency testing and continuing education requirements of the FBI Director's Quality Assurance Standards (Standards 5 and 13), issued in accordance with the DNA Identification Act of 1994, as well as successful completion of a qualifying test prior to beginning casework or databasing responsibilities. See also **DNA Analyst**.

Quality Assurance (QA)

Those planned or systematic actions necessary to provide adequate confidence that a product or service will satisfy given requirements for quality.

Quality Control (QC)

The day-to-day operational techniques and the activities used to fulfill requirements of quality.

Relatives of Missing Person Index

A Relatives of Missing Persons Index consists of DNA records from the biological relatives of individuals reported missing.

Searcher

A module within the CODIS software program that allows a user to search a single target profile or a group profiles against specific candidate indexes.

SDIS

The **State DNA Index System** contains the State level DNA records for searching by local DNA laboratories within the State. SDIS is the State's repository of the DNA identification records and is under control of the State administrator. SDIS typically serves as the central point of contact for access to NDIS. In the Tennessee System this will be the Nashville site. They are responsible for maintaining and uploading DNA profiles from LDIS, performing searches and responding to search requests of that database, and uploading data to the NDIS.



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

CODIS Standard Operating Procedures Manual

Terms, Abbreviations, Definitions

SOR

The **Sex Offender Registry** in Tennessee was created in 1995 as a result of the enactment of federal laws requiring states to create and maintain individual sex offender registries.

Specimen

The biological sample that is the object of DNA analysis for the purpose related to forensic identification or statistical population sampling.

Specimen Category

A classification used for specimens as it pertains to the source of a DNA sample (e.g., forensic unknown, biological mother, father, siblings, unidentified person, etc.); can be used interchangeably with Specimen Type.

STR

Stands for **Short Tandem Repeat**, which is a scientific term referring to a recurring pattern of two or more nucleotides, which are the building blocks of DNA. In forensic DNA analysis, the repeated sequences may be four or five base pairs in length and are directly adjacent to each other.

State

References in the NDIS Procedures to state includes all states, the federal government, the military, all federal possessions, and territories, federally recognized Indian tribes, and the District of Columbia.

State CODIS Administrator

The CODIS administrator who serves as the central point of contact for a state with the NDIS custodian and is responsible for ensuring that the other participating laboratories in the state comply with the terms and conditions for participation in NDIS.

Submitting Agency

The criminal justice agency that submitted evidence to a forensic DNA crime laboratory. The submitting agency is responsible for investigating crimes.

Suspect

An individual whose identity is known to the police and who is suspected to be the perpetrator of a crime; may also be referred to as subject.

Suspect Index

Consists of DNA records of subjects received in casework. Biological specimens obtained for entry into this index must be obtained via a court ordered warrant.



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

CODIS Standard Operating Procedures Manual

Terms, Abbreviations, Definitions

SWGDM

The **Scientific Working Group on DNA Analysis Methods** is a group of forensic scientists that meets under the guidance of the FBI and recommends revisions to the Quality Assurance Standards within the forensic DNA community. The Scientific Working Group on DNA Analysis Methods was previously known as the Technical Working group on DNA Analysis Methods.

Target DNA Profile

DNA profile submitted by a criminal justice agency for the purpose of searching DNA profiles maintained by NDIS which could match an indexed DNA profile.

TBI

The **Tennessee Bureau of Investigation** was established March 27, 1980 as an independent agency and provides up-to-date investigative, forensic science and crime information services as well as support to Tennessee's entire criminal justice system.

TCA

The **Tennessee Code Annotated** contains the current text of the laws in effect within the state of Tennessee.

Technical Leader

An employee of the laboratory who is accountable for the technical operations of the DNA laboratory and who is authorized to stop or suspend laboratory operations.

Technical Review

An evaluation of reports, notes, data, and other documents to ensure that there is an appropriate and sufficient basis for the scientific conclusions.

Technical Reviewer

An employee who is a current or previously qualified analyst in the methodology being reviewed that performs a technical review of, and is not the author of, the applicable report or its contents. The Technical Reviewer can also be a contract employee.

Technology

A term used to describe the type for forensic DNA analysis performed in the laboratory, such as STR, Y-STR, or mitochondrial DNA.

TOMIS

Tennessee Offender Management Information System is the management system designed to monitor inmates and/or individuals on parole within the Tennessee Corrections Department.



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

CODIS Standard Operating Procedures Manual

Terms, Abbreviations, Definitions

TWGDAM Guidelines

The document prepared by the **Technical Working Group on DNA Guidelines Analysis Methods** entitled *Guidelines for a Quality Assurance Program for DNA Analysis*, published in the *Crime Laboratory Digest* (Vol. 22, No. 2, April 1995).

Unidentified Person

Refers to the DNA profile developed from either the recovered deceased (including body parts and tissue) or an individual who is unidentified (e.g., children and other individuals who cannot or will not identify themselves). The DNA profile for this specimen category is stored in the Unidentified Human (Remains) Index.

Unidentified Human (Remains) Index

This index consists of DNA records from recovered living persons (e.g., children who can't and others who can't or refuse to identify themselves), and recovered dead persons (including their body parts and tissues), whose identities are not known.

Unknown Subject Case

A case without a suspect listed or a case in which DNA has been conducted and the listed suspect is excluded.

Unreviewed Arrestee

A specimen category containing arrestee profiles entered into CODIS before the review is completed. This category was created to ensure that the profiles are not searched against other indexes prior to approval.

Unreviewed Forensic

A specimen category containing biological sample profiles associated with a crime that are entered into CODIS system before a technical review is completed. This category was created to ensure that the profiles are not searched against other indexes prior to approval.

Unreviewed Offender

A specimen category containing convicted offender profiles that are entered into CODIS before the review is completed. This category was created to ensure that the profiles are not searched against other indexes prior to approval.

Uploading

Movement of DNA profiles between systems at different levels via the CJIS-WAN.

Vendor Laboratory

A governmental or private laboratory that provides DNA analysis services to another laboratory or agency and does not take ownership of the DNA data for purposes of entry into CODIS



TENNESSEE BUREAU OF INVESTIGATION

Forensic Services Division

CODIS Standard Operating Procedures Manual

Terms, Abbreviations, Definitions

Users

Personnel who have login access to the CODIS system and/or qualified DNA analysts who are responsible for producing the DNA profiles stored in NDIS.

Victim

Refers to the individual or entity against which a crime has been committed.

Y-STR

A profile obtained from loci on the Y chromosome. May be useful if more than one male subject is involved in a case or there is an abundant amount of a female DNA found in the obtained profile. This is inherited paternally.