

# FORENSIC BIOLOGY CODIS MANUAL

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9 NYCRR Part 6192 The policy which provides for the establishment and operation of the DNA Identification Index in New York State.

ASCII **American Standard Code for Information Interchange.** Text-only, with no formatting such as tabs, bold or underlining.

Accreditation Formal recognition that a DNA laboratory is competent and meets or exceeds a list of standards, including the FBI Director's Quality Assurance Standards, to perform specific tests by a nonprofit professional association of persons actively involved in forensic science that is nationally recognized within the forensic science community.

Administrative removal The deletion of a DNA profile at the local, state and/or national index levels for reasons other than expungement.

Allele In classical genetics, one of the alternate forms of the gene at a particular locus. In DNA analysis, the term "alleles" 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.

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

Biological Father/Mother The CODIS specimen category for DNA profiles generated from known reference samples provided voluntarily by the biological father/mother of a reported missing person. Profiles in this specimen category are stored in the CODIS index known as "Relatives of Missing Persons Index." These DNA profiles are removed once the individual for whom the samples were submitted has been identified.

Biological Sibling The CODIS specimen category for DNA profiles generated from known reference samples provided voluntarily by the biological sibling of a reported missing person. Profiles in this specimen category are stored in the CODIS index known as "Relatives of Missing Persons Index". This DNA profile is removed once the individual for whom this sample was submitted has been identified.

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Cambridge Reference Sequence (CRS)	The Cambridge Reference Sequence (CRS) is the standard sequence used in mitochondrial DNA typing to which other mitochondrial DNA types are compared. Mitochondrial DNA profiles are reported as differences from the standard reference sequence.
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. <b>Candidate matches must complete a confirmation process before being reported as a match or hit.</b>
Candidate Profile	A DNA profile matching the target DNA profile (see target DNA profile).
Case Disposition	The final outcome (confirmed conviction, offender hit, forensic hit, etc.) of a criminal case aided by CODIS.
Case Report	A report generated by a forensic laboratory documenting the results of the analyses of the crime scene evidence.
Casework Laboratory	A forensic DNA laboratory responsible for DNA profiles developed from crime scene evidence.
CJIS-WAN	The FBI's Criminal Justice Information Services Wide Area Network that provides communications network for the United States law enforcement community. Originally designed to support the Integrated Automated Fingerprint Identification System (IAFIS), the FBI is expanding the scope of the CJIS-WAN to include all federal, state and local crime laboratories participating in the National DNA Index System.
CMF	Common Message Format, an ASCII text file format necessary for importing data into CODIS.
CODIS	The Combined DNA Index System. CODIS is the entire system of DNA indexes (Convicted Offender index, Forensic index, Population index, Missing Persons index, etc.) including the software. CODIS is maintained on Local, State and National levels.

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CODIS Administrator	A member of the CODIS staff with administrative rights in CODIS as defined by the CODIS Supervisor.
CODIS Core Loci	13 DNA loci that are required and accepted by CODIS for a particular DNA testing method.
CODIS Information Technology (IT) User	A government employee of a CODIS laboratory who has login access to the CODIS system for computer hardware/software and telecommunications maintenance purposes but who is not authorized to add, modify or delete DNA records in CODIS.
CODIS Custodian/Supervisor	A member of the CODIS staff responsible for overseeing the CODIS system and all its functions (also called "LDIS Custodian"). This person fulfills the role of Casework CODIS Administrator as defined by the FBI QA Standards.
CODIS User	A government employee who: (1) has login access to the CODIS system and is authorized to read, add, modify or delete DNA records in CODIS; or (2) is a qualified DNA analyst responsible for producing DNA profiles stored in NDIS.
Contract Laboratory	A laboratory, usually in the private sector, that performs DNA analyses under contract to a forensic laboratory.
Control Certification Form	This document certifies that the positive human DNA control(s) and the negative controls satisfy the requirements established by NIST. One document must be completed and submitted annually to the SDIS Custodian before DNA profiles can be uploaded into SDIS.
Cold Hit	Two DNA profiles matching with no prior indication that the profiles are related.

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Convicted Offender	The CODIS specimen category for a DNA profile generated from any person who has been convicted of a crime in federal, state, and/or local courts where the applicable law permits establishment of a DNA record for this person. In New York State, this is a person convicted of one of the crimes listed in Executive Law, Section 995(7). Profiles in this specimen category are stored in the CODIS index known as the "Convicted Offender Index" (or Offender Index). As of June 2006, all convicted felons in New York must give a sample to the database.
Convicted Offender Index	The CODIS index containing DNA profiles generated from convicted offenders stored in SDIS and NDIS.
Convicted Offender Lab	A forensic DNA laboratory responsible for DNA profiles developed from Convicted Offender samples. In New York State, this is the New York State Police Forensic Investigation Center in Albany.
Convicted Offender Sample	A biological sample containing DNA that is collected from a designated convicted offender for the purpose of DNA profiling.
Convicted Offender Profile	A DNA profile generated from a convicted offender sample. These DNA profiles are put into the CODIS specimen category "Convicted Offender" and are stored in CODIS index known as the "Convicted Offender Index." These profiles establish an index of DNA identification records that are searched for matches against the DNA profiles generated from crime scene evidence.
Conviction Match	The DNA profile generated from crime scene evidence matches a DNA profile from a convicted offender, <b>but the offender has already been convicted of the crime for which that evidence was collected.</b>
Criminal Justice Agency	An agency or institution of the federal, state or local government, other than the office of the public defender, which performs as part of its principal function activities relating to the apprehension, investigation, prosecution, adjudication, incarceration, supervision and/or rehabilitation of criminal offenders.

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Criminal History Record	Documents generated by DCJS that contain arrest, charges, conviction, sentence, location and identifying information of a convicted offender.
DAO	Stands for District Attorney's Office. There is one in each of the five boroughs of New York City.
Databank Coordinator	An employee or designee of the Division of Criminal Justice Services responsible for administrative requirements related to the New York State DNA Databank.
DCJS	Stands for Division of Criminal Justice Services. Acts as a liaison between local New York laboratories and the New York State Police Laboratory. DCJS manages the program responsible for collection of offender samples in New York State, handles requests to expedite samples and database searches and handles legal requests for convicted offender information.
DCJS Match Letter	<p>A letter generated by DCJS after a match between a forensic DNA profile and a New York State Police convicted offender profile has been confirmed. The purpose of this letter is to notify the laboratory of a confirmed match, provide case and agency information, the identity of the offender, and current offender location.</p> <p>The DCJS Match Letter is provided to the DAO's upon request.</p>
Deduced Missing Person	The CODIS specimen category for DNA profiles generated from examining reference samples (for example, toothbrush, hair brush) of a reported missing person. Profiles in this specimen category are considered evidentiary and are stored in the CODIS Missing Person Index. This index is searched and compared against the Relatives of Missing Persons Index and the Unidentified Human (Remains) Index.
DNA Analysis Backlog Elimination Act	Authorized the collection of DNA samples from persons convicted of specified Federal Felony offenses, certain District of Columbia convicted offenders, and military offenders.

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DNA Databank	The New York State Identification Index (as used throughout Executive Law Section 995) comprised of DNA profiles in the Convicted Offender index, the Forensic index and the Missing Persons index.
DNA Identification Act	The Federal DNA Identification Act of 1994, 42 U.S.C. § 4131 <i>et seq.</i>
DNA Profile	The combination of DNA alleles carried by a particular individual at a specified set of genetic loci which permits the DNA of that individual to be distinguishable from the DNA of another individual.
DNA Record	Includes the DNA profile as well as data required to manage NDIS. This includes: the names of DNA personnel associated with the DNA profile analyses, the date after which DNA records from which a given DNA analyst can be accepted, and, when applicable, the date after which associated DNA records are not accepted.
Elimination Sample	A biological sample from a known individual (commonly a husband or consensual partner), other than the alleged perpetrator or victim, which is analyzed for purposes of identifying those portions of a forensic DNA profile attributable to the alleged perpetrator. This DNA profile for this specimen category <b>may</b> be stored at the state and/or local levels but is not eligible for upload to NDIS.
Executive Law Article 49-B Section 995	Provisions of New York State law establishing the Commission on Forensic Science and the DNA Identification Index.
Equivalent Allele Parameter	For PCR/STR, this parameter is used to determine whether a target allele matches a candidate allele. It is a PCR value that is defined to be the same as another PCR allele value. Equivalent allele values are reciprocal. For instance, at THO1, $9.2 = 9.3 = 9.x = 10$ with respect to searches. Equivalency can be set by the administrator. During review of a candidate match, the reviewer must check whether the values are indeed equivalent.



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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 Federal Bureau of Investigation
FB-LDAS or Linkage	Forensic Biology Local DNA Analyses System (LINKAGE) - the Paradox DNA database used to search preliminary DNA results for case links. LINKAGE contains both casework non-mixture profiles and suspect profiles.
Forensic DNA Laboratory	Any forensic laboratory operated by the state or unit of local government that performs forensic DNA testing on crime scene evidence or materials derived from the human body for use as evidence in a criminal proceeding or for purposes of identification (Executive Law section 995(2)).
Forensic DNA Testing	Any test that employs techniques to examine DNA derived from the human body for purpose of providing information to resolve issues of identification (Executive Law section 995(2)).
Forensic DNA Profile	A DNA profile generated from the testing of crime scene evidence. These profiles are from persons whose identities are not known with certainty and who left DNA at the scene of a crime or whose DNA was carried away from the scene of a crime. These profiles are put in the CODIS specimen category "Forensic Unknown". Profiles in this category are stored in the CODIS index known as "Forensic STR Index".
Forensic Hit (FH)	CODIS case disposition when two or more forensic samples are linked; also called a case-to-case hit.
Forensic Match Letter	A letter from a laboratory documenting a confirmed Forensic Match. This letter provides information regarding the investigating agency and offender information (for solved cases).
Forensic STR Index	The CODIS index that contains forensic DNA records.

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**Forensic Sample** A biological sample from a crime scene or crime scene evidence. DNA testing of these samples generate forensic DNA profiles.

**Forensic Unknown** The CODIS specimen category for forensic DNA profiles generated from the testing of crime scene evidence. Profiles in this specimen category are stored in the CODIS index known as "Forensic STR Index."

**High Stringency** The number of alleles and the corresponding allelic values are the same between two DNA profiles at a given locus.

**High Stringency Match** All alleles at all loci match at high stringency.  
**Hit** A confirmed match between two or more DNA profiles. Hits can occur at or between any level (local, state and national) in the CODIS hierarchy. Hits can be a Forensic Hit, an Offender Hit, an Arrestee Hit (some states), or a Suspect Hit (Forensic Biology LINKAGE only).

**Identifying Information** Information on a Convicted Offender's personal characteristics and ID numbers, e.g. name, NYSID#, DOB, SS#, etc.

**Index Offense** An offense defined in Executive Law Section 995, conviction of which determines eligibility for inclusion in the State DNA Databank.

**Interpreting Analyst** Forensic Biology analyst responsible for interpreting the DNA results in a case.

**Investigating Agency** See Submitting Agency.

**Investigations Aided (IA)** A criminal investigation equates to a case, which equates to a submission to a laboratory. An investigation aided for a casework laboratory is the number of cases submitted to the lab that were assisted by CODIS. Investigations aided = Investigations assisted = Cases aided = Cases assisted.

**Juvenile** The known sample from a juvenile (as that term is defined by the relevant jurisdiction) who is required by state law to provide a DNA sample for analysis and entry into a state DNA database. The DNA profile for this specimen category is stored in a Convicted Offender Index.

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Keyboard Search	A manual search of CODIS initiated by a CODIS user. In SDIS or NDIS the search is initiated by the SDIS or NDIS Custodian. In LDIS the search is done by a member of the CODIS group.
Keyboard Search Request	A request from an agency for a keyboard search of the DNA Databank at LDIS, SDIS or NDIS. This letter includes all of the information relating to the DNA profile, the requesting agency and certification of the control values.
Keyboard Search Result Letter	A letter from the Databank Coordinator documenting the results (match/no match) of the Keyboard Search.
LDAS	The <b>Local DNA Analysis System</b> , a Paradox database which contains the local DNA profiles. The LDAS for Forensic Biology contains casework non-mixture (or deduced) forensic DNA profiles generated from casework and DNA profiles from suspects developed during the course of criminal investigations. This database is commonly called "LINKAGE."
LDIS	The <b>Local DNA Index System</b> contains the DNA records selected from LDAS for searching for DNA matches and for inserting into higher level (such as SDIS and NDIS) CODIS indexes.  LDIS also contains DNA records for profiles not suitable for entry into LINKAGE, such as non-deduced mixtures or partial profiles.
LAB-TYPES	A Paradox database which contains DNA profiles from Department of Forensic Biology staff, known contaminant DNA profiles, and other DNA profiles from known individuals (such as janitorial staff).
Low Copy Number (LCN)	A specimen category existing at the Department of Forensic Biology LDIS and at New York State SDIS for the purpose of uploading and searching profiles generated using low copy number (amplification) techniques. Such profiles are not eligible for NDIS.

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Low Stringency	For a given locus, an allelic value for one allele from one profile is the same as an allelic value for one allele from another profile.
Low Stringency Match	At least one locus matches at low stringency.
Marked/Unmarked Profile	Marked profiles in Specimen Manager are profiles selected for upload to SDIS. Unmarked profiles are those profiles deselected for upload to SDIS.
Match Report	Electronic report generated by CODIS when a potential candidate match is made by CODIS software.
Match Confirmation	The process of determining if a potential candidate match generated by CODIS or other database software is a true match and should be reported to the investigating agency.
Match Manager	Match Manager (MatchMan) is the CODIS module that allows for the managing and sorting of matches discovered through the use of CODIS. Matches are added to Match Manager by the Searcher and Autosearcher programs.
Match Stringency	The actual locus-level stringency (low, moderate or high) for a match. The match stringency for the match between two DNA profiles is determined by the lowest locus-level stringency for all loci of the 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 Persons Index.
Missing Person	The known reference sample of an individual reported missing, voluntarily provided by a relative or the person who filed the missing person report. The source of the DNA has been verified as originating from the missing person and is stored in the Missing Persons Index.
Mitochondrial DNA	A small circular piece of DNA found outside the nucleus in most cells and generally involved in the production of proteins responsible for energy production in the body. It is inherited maternally.

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Mitotype	A mitochondrial DNA profile consisting of a listing of nucleotide sequence differences from a standard reference sequence; typically the Cambridge Reference Sequence (CRS) or revised Cambridge Reference Sequence (rCRS). The mitotype will vary depending upon the length of the sequence detected.
Moderate Stringency	For a given locus, a minimum number of common alleles and the corresponding allelic values must be the same between two profiles. The minimum number is determined by the profile with the fewest alleles. This is the standard search stringency.
Moderate Stringency Match	A match between two DNA profiles in which the locus-level stringency match for all the loci of the match was either at moderate or high stringency. No loci matched at low stringency.
NDIS	<p>The National DNA Index System. NDIS is one component of CODIS – the national and highest level index containing the 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.</p> <p>NDIS receives DNA records from every lower level index and supports the searching functions of CODIS. These DNA records are comprised of forensic DNA profiles, convicted offender DNA profiles, arrestee DNA profiles, DNA profiles from missing persons and relatives, and anonymous DNA profiles contributed to a population database.</p>
NDIS Standards for Acceptance of DNA Data	The document prepared by the FBI specifying the requirements for DNA data to be accepted for searching and storage at the National level. These must be reviewed by CODIS analysts annually, and currently consist of a web-based training followed by a quiz.
Negative Amplification Blank	A negative control sample containing amplification reagents without added DNA, used to detect DNA contamination of the amplification reagents during testing.
Negative Control	A specimen included in a batch of specimens which, when tested using DNA testing methods, should yield negative test results.

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Negative Reagent Blank	A negative control sample containing all testing reagents without added DNA which is used to detect DNA contamination of any reagent during testing.
NIST	Stands for the <b>N</b> ational <b>I</b> nstitute of <b>S</b> tandards and <b>T</b> echnology.
No Match	CODIS case disposition for a moderate stringency candidate match between two cases that are not a true match.
No Suspect Case	<ol style="list-style-type: none"><li>1. A case with no suspect listed. This is determined by checking all paperwork associated with the evidence submission and case contacts.</li><li>2. A case in which DNA testing has been conducted and the listed suspect(s) have been excluded.</li></ol>
NYPD	Stands for the New York (City) Police Department.
NYS Administrator	The New York State Administrator is responsible for the oversight and approval of CODIS functions at the state level. This includes supervising the SDIS custodian.
NYSID Number	The New York State <b>I</b> dentification Number. A unique number assigned to a person upon fingerprinting. NOTE: This number is only applicable to New York State Convicted Offenders, other states have their own identifiers for offenders and arrestees.
Offender Duplicate	CODIS case disposition when the same offender matches a case more than one time due to duplicate testing of the offender. This also serves as a quality control of the database.
Offender Hit (OH)	CODIS case disposition when a DNA profile generated from crime scene evidence in an open case (case with no conviction) matches a convicted offender profile (or arrestee) at SDIS or NDIS.

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Offender Match Letter	A letter from NYS DCJS (for state convicted offender matches) or the offender lab (offender matches at NDIS) documenting a confirmed Offender Match. Provides the offender's identifying information and the investigating agency. It is used by the agency investigating the case to obtain a court order to acquire another biological sample from the convicted offender for comparison to crime scene evidence.
ORI	Stands for <b>O</b> riginating <b>A</b> gency <b>I</b> dentifier. Unique laboratory identification number that associates a specimen with a particular laboratory (OCME - NY030011K).
Other	The CODIS specimen category that the Department of Forensic Biology uses for forensic DNA profiles generated from the testing of crime scene evidence that are known to match other forensic DNA profiles in the LINKAGE and/or LDIS databases. These (pattern) profiles are unmarked for upload to SDIS and only get searched in LINKAGE and/or LDIS.
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.
Pending	A CODIS disposition choice used temporarily while awaiting the final results from a confirmed match from the investigating agencies.
Perpetrator	The individual who commits a crime. The identity of the perpetrator may or may not be known to the police.
Positive Human DNA Control	A known reference DNA sample traceable to the NIST standard reference material for which the DNA profile is known, and is used to demonstrate the acceptable performance of a DNA test.
Popstats	CODIS program available within the CODIS software to perform statistical calculations using the FBI population databases.
Privacy Act	Regulation which determines what information can be entered into CODIS in order to protect the rights of the individual.

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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	<p>A DNA analyst who had 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.</p> <p>In the Department of Forensic Biology a Qualified DNA Analyst is defined as an Interpreting Analyst who is a Criminalist II or higher title meeting the above requirements.</p>
Relatives of Missing Person Index	Consists of DNA records from the biological relatives of individuals reported missing and from the missing person.
Requesting Laboratory	A laboratory that sends a request to the SDIS or NDIS Custodian to search SDIS or NDIS.
Revised Cambridge Reference Sequence (rCRS)	A revision of the standard sequence (CRS) used in mitochondrial DNA typing.
"Scientific Reason"	A statement that supports a search using fewer than the required minimum of STR loci at the state or national level, such as the apparent presence of mixtures, sample degradation or limited sample availability.
SDIS	The <b>State DNA Index System</b> . The State's repository of DNA records under the control of state authorities. SDIS is typically the central point of contact between all New York State local labs and NDIS. (See also convicted offender laboratory).
SDIS Custodian	An employee or designee of the New York State Police responsible for, among other duties, maintaining SDIS, fulfilling technical requirements of CODIS and proper operation of the computer hardware on which the DNA Databank resides.



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Search	A method for comparing target and candidate profiles to see if any match.
Search Stringency Parameters	Allows the user to define the number of alleles per locus that the target profile and candidate profile must have in common. It is a user-defined setting that is used as a filter to report locus matches of equal or higher stringency (see Low Stringency, Moderate Stringency, High Stringency).
Search Results	After CODIS determines that two or more DNA profiles match, an electronic report is generated by CODIS and is distributed to the laboratories responsible for the matching profiles.
Searcher	Searcher is an application within the CODIS suite of software products. It provides a means of locating specific DNA profiles by searching the profiles within the CODIS indexes for potential matches to a target DNA profile.
Specimen/Sample	The biological sample (for example, blood, semen or epithelial cells) that is the object of DNA analysis for purposes related to forensic identification or statistical population sampling.
Specimen Category	Used to classify a DNA profile and determine into which index a specimen can be transferred. For example, unidentified person, forensic unknown and low copy number categories will be inserted into the Forensic index.
Specimen ID	Identification number associated with a DNA profile entered into the CODIS system. Specimen ID numbers must be unique and can be no longer than 24 characters. The OCME Department of Forensic Biology uses a standard format which is explained in section 4.1 of this manual.
Specimen Manager	Specimen Manager (SpecMan) is a CODIS module that provides a simplified, central interface for managing specimens (DNA records). In SpecMan, views of specimens can be created using different criteria, specimens can be marked/unmarked for upload and uploads can be sent.

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Spouse	The known reference sample voluntarily provided by a presumptive parent of a common child. The DNA profile for this specimen category is stored in the Spouse Index.
Spouse Index	A Spouse Index consists of the DNA records of a presumptive parent of a common child of a missing person.
Statute of Limitation	A statutory provision which sets forth the maximum period of time that can lapse after a criminal act occurs for it to be taken to court. If that maximum time period passes and the perpetrator has not been formally charged for the criminal act, then he or she never can be.
Stringency	Stringency levels define the number of alleles that must match in order to produce a match (low, moderate, or high).
Submission Form	The DNA Databank Specimen Submission Form. This form, which contains the bar code number of the offender's sample, is submitted to the convicted offender laboratory along with the offender's DNA sample. This form contains the offender's identifying information, and the facility responsible for the sample collection.
Submitting Agency	The 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 alleged to be the perpetrator of a crime.
Suspect Case	<ol style="list-style-type: none"><li>1. A case in which DNA has been conducted and the listed suspect(s) have been included.</li><li>2. A case with a suspect listed and no DNA analysis has been performed to exclude them.</li></ol>
Target DNA Profile	A target profile is a DNA profile for which you are trying to find a matching DNA profile. This profile is submitted by a criminal justice agency for the purpose of searching against DNA profiles maintained by SDIS and NDIS which could match an indexed DNA profile.

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### 1.0 CODIS TERMS AND ABBREVIATIONS

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Unidentified Human (Remains) Index	Consists of DNA records from recovered living persons (for example, 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.
Unidentified Person	The DNA profile developed from the recovered deceased (including body parts and tissue) or an individual who is unidentified (for example, children who can't and others who can't or refuse to identify themselves). The DNA profile for this specimen category is stored in the Unidentified Human (Remains) Index.
Upload	The transfer of electronic data from a lower level of CODIS (LDIS or SDIS) to an upper level (SDIS or NDIS).
User	Personnel who have login access to CODIS and/or qualified DNA analysts who are responsible for producing the DNA profiles stored in NDIS.
User Defined 1, 2, 3	CODIS case dispositions that can be defined by the user in the event that the others are not appropriate.
Use and Dissemination Agreement	An official document allowing the transfer of Databank information from one agency to another. This document contains requirements for the confidentiality and dissemination of DNA information and procedures for laboratories participating in SDIS and NDIS.
Warm match	A warm match occurs when CODIS DNA profiles match based on prior knowledge. A typical example is when DNA profiles from several cases match that were submitted to the laboratory as a pattern.

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### 2.0 OVERVIEW OF THE CODIS PROGRAM

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#### 2.1 Forensic Biology CODIS Overview

The Department of Forensic Biology will enter DNA profiles from evidentiary items into LINKAGE and LDIS in accordance with departmental, New York State and FBI CODIS procedures. These profiles will be compared to DNA profiles from other Forensic Biology cases. The information in LDIS will be eligible for entry into the New York State SDIS.

The primary NDIS requirement for a DNA profile to be entered into CODIS is that it be from an item of evidence that reasonably could be expected to contain the alleles of the perpetrator. To attempt to eliminate the possibility of the alleles being from the victim or other non-perpetrator, there must be a good-faith effort to obtain the necessary victim exemplars or other elimination samples. The Department of Forensic Biology considers two requests for such exemplars or elimination samples, separated in time by a minimum of two weeks, to satisfy the “good faith” requirement.

NOTE: DNA profiles are eligible for LINKAGE and/or LDIS only if a crime has been committed. If a case has been deemed to be unfounded by the NYPD, no DNA profile generated in that case is eligible for entry.

Forensic DNA profiles in LDIS will be compared to all other forensic DNA profiles in LDIS. After upload to SDIS, they will be compared to profiles contained within the New York State SDIS. Those DNA profiles eligible for NDIS will be uploaded to NDIS and compared to profiles within NDIS.

Candidate matches will be subjected to a confirmation process, including review of the associated case file(s) and data. After a forensic-forensic, forensic-offender, forensic-arrestee, or forensic-suspect match has been confirmed, the New York City Police Department and the appropriate District Attorney’s Office(s) will be notified.

Missing persons candidate matches will be subjected to a confirmation process, including review of the associated case file(s) and data. After the match has been confirmed, the Medical Examiner of record and the OCME Identification Unit will be notified.

The Department of Forensic Biology will track the usefulness of the CODIS databanking program with the assistance of the Office of the Criminal Justice Coordinator, Offices of the District Attorney and the New York City Police Department.

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### 2.0 OVERVIEW OF THE CODIS PROGRAM

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#### 2.2 Combined DNA Index System (CODIS)

Combined DNA Index System (CODIS) is the Federal Bureau of Investigation Program that refers to the entire system of DNA indexes (convicted offender index, forensic index, etc.). CODIS is a hierarchy of DNA databases from forensic laboratories around the United States maintained at the Local, State and National levels. It contains DNA profiles of individuals previously convicted of serious crimes as well as forensic DNA profiles (collected from items of evidentiary value). Its function is to identify DNA matches between convicted individuals and forensic DNA profiles as well as DNA matches between forensic DNA profiles. As of January 2003, all 50 states, Puerto Rico, Guam and 2 federal labs participate in CODIS. The goal of CODIS is to provide investigative assistance to law enforcement investigators in the field.

#### 2.3 Forensic Biology Local DNA Analysis System (LDAS or LINKAGE)

The Department of Forensic Biology maintains a Local DNA Analysis System (LDAS or LINKAGE). This is a Paradox database of DNA profiles generated during the analysis of cases. LINKAGE does not contain mixed profiles or DNA profiles from convicted offenders. It does contain DNA profiles from suspects identified during the investigation of offenses. LINKAGE is maintained separately from the CODIS software. Its function is to identify potential local hits quickly before case completion so that these cases may be expedited.

*See also Section 4.4.*

#### 2.4 CODIS Local DNA Index System (LDIS)

The CODIS Local DNA Index System (LDIS) contains forensic DNA records selected from LINKAGE as well as forensic mixture profiles, missing person profiles, and relatives of missing person profiles. LDIS does not currently contain suspect profiles. One function of LDIS is to search for DNA matches involving mixture profiles (not previously identified in LINKAGE) as well as those matches already identified through LINKAGE. It also serves to select eligible profiles for submission to the higher levels of the CODIS hierarchy.

*See also Section 4.5.*

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#### 2.5 CODIS State DNA Index System (SDIS)

The CODIS State DNA Index System (SDIS) contains the DNA records from all local DNA laboratories within the state. SDIS is the next level after LDIS in the CODIS hierarchy. It is the state's repository of DNA identification records and is under control of state authorities. In New York, the SDIS is maintained by the New York State Police Forensic Investigation Center. In most states, including New York, SDIS has a Forensic index and a Convicted Offender index. SDIS typically serves as the central point of contact for the state and for access to NDIS.

#### 2.6 CODIS National DNA Index System (NDIS)

The CODIS National DNA Index System (NDIS) is the FBI-administered centralized system of DNA identification records contributed by all state and local participating laboratories. NDIS is the highest level in the CODIS hierarchy, receives records from every lower level and supports the searching function of CODIS.

#### 2.7 CODIS + Mito

The CODIS + Mito system is the analogous database system for Missing Persons cases. There are also three levels (LDIS + mito, SDIS + mito, and NDIS + mito). It contains DNA (STR and mitochondrial) data from missing persons, unidentified remains, and relatives of missing persons.

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#### 3.1 Interpreting Analyst (Qualified DNA Analyst)

- 3.1.1 The interpreting analyst has the responsibility of determining whether or not a DNA profile is eligible for entry into LINKAGE and/or CODIS. The FBI has prepared a flowchart which is available to aid in the determination of CODIS eligibility; it is available in the CODIS directory on the network.
- 3.1.2 The interpreting analyst communicates his/her determination(s) to their designated supervisor (Criminalist IV), Assistant Director, CODIS Program Manager and the CODIS support staff through the use of the appropriate DNA Profile Evaluation form or CODIS sheet found in Appendix 9.1.
- 3.1.3 It is primarily the responsibility of the interpreting analyst to compare appropriate preliminary DNA profiles to those in LINKAGE, determine if there are any local matches (either to another case or to a suspect), and expedite any needed testing. If a pending match is confirmed, the analyst must enter the appropriate data on the DNA-HITS secure website. The DNA-HITS entry must be reviewed before it can be approved and notification made.
- 3.1.4 It is the responsibility of the interpreting analyst to alert their supervisor of any CODIS-related actions on their case work. Such actions would include subsequent determination that a profile should be removed from CODIS (sample known to have come from the victim, husband or boyfriend) or an incorrect interpretation was made so a profile must be modified. The supervisor will then alert the appropriate Assistant Director and the CODIS Program Manager. The supervisor will ensure the appropriate paperwork is filled out and provide this information to the CODIS support staff for processing.

#### 3.2 Criminalist IIIs

- 3.2.1 Criminalist IIIs are responsible for entering selected DNA profiles associated with evidence into LINKAGE, based on the DNA Profile Evaluation forms or CODIS sheets prepared by the Interpreting Analyst, prior to technical review of the case. Criminalist IIIs are also responsible for entering selected DNA profiles associated with exemplars or pseudo-exemplars from suspects into LINKAGE, based on the CODIS sheets prepared by members of the X-Team, prior to technical review of the case.

*This process is for the purpose of timely entry of DNA profiles into LINKAGE and is not sufficient for entry of CODIS eligible DNA profiles into LDIS.*

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3.2.2 Any such entry must be documented by dating and initialing the section referring to LINKAGE entry on the CODIS sheet. Since entry into LINKAGE in this manner is neither a technical review of the case, nor an administrative review of a report and supporting documentation, it is not necessary to note it on the scheduled analysis form.

### 3.3 Criminalist IVs

3.3.1 Criminalist IVs are responsible for reviewing CODIS sheet(s) submitted with each case they review for accuracy, completeness, correct specimen identification numbers, any local matches, ensuring profiles are not from elimination sources and meet criteria for entry into CODIS. For cases reviewed by Criminalist IVs only (and not Assistant Directors), the reviewing Criminalist IV is responsible for transferring appropriate DNA profiles into LINKAGE and routing the CODIS sheet to the CODIS support staff for entry into LDIS.

3.3.2 Criminalist IVs are responsible for notifying the NYPD designee and the appropriate DAO bureau chief after completion of the match confirmation process for local DNA matches discovered in LINKAGE. This includes ensuring that the DNA-HITS data entry has been completed.

3.3.3 Criminalist IVs are responsible for communication with other laboratories and law enforcement agencies needed to investigate local, state, and national **confirmed** CODIS matches. The interpreting analyst will aid in this process.

3.3.4 Criminalist IVs are primarily responsible for requesting exemplars and elimination samples from victims, family members, employees of businesses or any other exemplars as needed. These requests go to the NYPD and/or the appropriate district attorney's office.

### 3.4 Assistant Directors

3.4.1 Assistant Directors are responsible for reviewing CODIS sheet(s) submitted with each case they review for accuracy, completeness, correct specimen identification numbers, any local matches, ensuring profiles are not from elimination sources and meet criteria for entry into CODIS. This includes bringing any CODIS considerations related to a case that may not be apparent from the CODIS sheet to the attention of CODIS support staff.



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3.4.2 Assistant Directors are responsible for transferring appropriate DNA profiles into LINKAGE and routing the CODIS sheet to the CODIS support staff for entry in LDIS.

3.4.3 Assistant Directors are responsible for reviewing data required for match confirmations and hit notifications for local matches made in LINKAGE.

### 3.5 CODIS Support Staff

3.5.1 The CODIS support staff is responsible for reviewing the data contained in the CODIS sheet submitted with each case for completeness before entering data into LDIS. A copy of each sheet will be made and placed in the case file; the original will be kept in a binder in the CODIS area.

3.5.2 The CODIS support staff is responsible for performing autosearches of the database, sending the New York State SDIS a regularly-scheduled upload of forensic profiles, processing CODIS data modifications, expungements, deletions, monthly hit counting and general maintenance of the database.

3.5.3 The CODIS support staff is responsible for the retrieval of Forensic Biology files involved in candidate matches made through the CODIS software, evaluating candidate matches and ensuring that the appropriate agencies are notified of all confirmed matches made through the CODIS software.

*Exceptions to the above are made for candidate matches involving LCN profiles and Missing Persons/Unidentified Persons profiles. For LCN candidate matches, the evaluation of the candidate match is done by a member of the LCN group, with the notification done by the CODIS support staff. For MP/UP candidate matches, both the evaluation and notification is done by a member of the Missing Persons group.*

3.5.4 CODIS support staff is responsible for maintaining system records including all relevant paperwork, maintenance of all binders containing the CODIS sheets, CODIS user information, and all other CODIS documentation. All binders will be maintained in the CODIS data entry area.

3.5.5 CODIS support staff is responsible for training system users and new CODIS staff concerning practical CODIS issues.

3.5.6 The LDIS database is backed up automatically, by the city's network systems.

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#### 3.6 CODIS Administrator

- 3.6.1 A CODIS Administrator is a member of the CODIS staff with administrative rights as defined by the CODIS Supervisor. The CODIS Supervisor, CODIS Manager and designated members of the CODIS group as designated by the CODIS supervisor, have Administrator rights.
- 3.6.2 These rights include, but are not limited to: entering profiles into CODIS, software updates, autosearches in LDIS, keyboard searches in LDIS, deleting/modifying profiles in LDIS, user maintenance and processing uploads.

#### 3.7 CODIS Custodian/Supervisor (Criminalist IV)

- 3.7.1 The CODIS Custodian/Supervisor is the system administrator of the laboratory's CODIS network. The CODIS Custodian is responsible for overseeing all operations of the CODIS system. This responsibility includes, but is not limited to: entering profiles into CODIS, software updates, user maintenance, processing uploads, evaluating candidate matches, hit notifications, oversight of CODIS computer training, quality assurance and security of DNA profile data stored in CODIS.
- 3.7.2 The CODIS Custodian/Supervisor has the authority to terminate the laboratory's participation in CODIS in the event of a problem until the reliability of the computer data can be assured.
- 3.7.3 The CODIS Custodian/Supervisor is the liaison between the Forensic Biology Department and the SDIS Custodian of the New York State Police Forensic Investigation Center.
- 3.7.4 The CODIS Custodian/Supervisor is responsible for reviewing the biweekly upload resolution, monthly hit counting and ensuring that all candidate matches have been evaluated and dispositioned.
- 3.7.5 The CODIS Custodian/Supervisor is responsible for the oversight of maintenance and filing of all paperwork required for NDIS participation such as proficiency test and audit documentation.
- 3.7.6 The CODIS Custodian/Supervisor is responsible for supervising the CODIS support staff and ensuring that all functions associated with CODIS staff are performed in a timely manner.

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3.7.7 The CODIS Custodian/Supervisor and the CODIS Program Manager, together, have the authority to modify or remove profiles from the database which are causing an excessive amount of spurious (false) candidate matches. Modifications could be accomplished by the addition of the obligate allele designation to one or more loci or by other methods as deemed appropriate to the sample.

#### 3.8 CODIS Program Manager (Assistant Director)

3.8.1 The CODIS Program Manager is responsible for the supervision of the CODIS staff.

3.8.2 The CODIS Program Manager is responsible for insuring the Forensic Biology Department is in compliance with the FBI Quality Assurance standards relevant to CODIS.

3.8.3 The CODIS Program Manager is responsible for determining if there is an acceptable need to request a keyboard search at SDIS/NDIS at the request of the NYPD or DAO.

In the absence of the CODIS Program Manager, a keyboard search at SDIS/NDIS may be approved by the CODIS Custodian or a member of the management team.

#### 3.9 Network Support Staff

3.9.1 Information technology specialists from DOITT, the city's computer service, are responsible for day-to-day maintenance and physical and electronic security of the CODIS servers and other hardware.

3.9.2 Those IT staff members with access to the CODIS server must undergo the FBI security clearance process and be added to the user list as CODIS IT users. They are not authorized to enter profiles or manipulate them.

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### 4.1 CODIS Identification Number (Specimen ID Number)

- 4.1.1 Each profile entered into CODIS will have a unique identifier. Only letters and numbers will be used in the description. Do not use any other spaces or any other characters, except a dash (-) when indicated below. The standardized format for entering specimen information into CODIS is as follows:

The first eight to ten characters will encompass the Forensic Biology laboratory number (last two digits of the year, followed by a dash, preceding a four or five digit case number) followed by a dash. If the specimen is from a contract laboratory the year will be preceded by a laboratory abbreviation (Bode Technologies (BT or BTB), Cellmark Diagnostics (CD) and Genescreen (GS)).

**Vouchered items:** add the last three digits of the voucher followed by a dash.

**Post mortem items:** add PM followed by the item number followed by a dash.

The final set of characters will be reserved for sample type and identification:

**Stained items (sheets, clothing, etc.):** add a few (usually 4 to 6) letters that describe the item, the item number, and the stain designation followed by a dash.

For stains with differential extractions the designations below will apply to the fractions.

**Sexual assault kit items:** the abbreviated descriptions below will be used:

- Dried secretions swabs** described as **DS**
- Oral swabs or smears** described as **OS**
- Vaginal swabs or smears** described as **VS**
- Vulva swabs or smears** described as **VU**
- Cervical swabs or smears** described as **CS**
- Sperm fraction** described as **SF**
- Epithelial fraction** described as **EF**
- Substrate/swab remains fraction** described as **SR**
- Anal swabs or smears** described as **AS**
- Underwear** described as **UW**

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**Case type indicator:** the last notation is a letter indicating the case type.

- AS** assault, attempted homicide, and related cases
- BU** burglary and related cases
- DR** drug possession and related cases
- HO** homicide
- MP** missing and unidentified persons
- RO** robbery, attempted robbery, and related cases
- SA** sexual assault and related cases
- WE** weapons possession and related cases
- OT** use for any case type not covered above

#### 4.1.2 Examples

Example 1: case no: FB07-00022, voucher N123456, item #1: purple shirt, stain 1B; assault. Specimen ID number will be: *07-00022-456-PS1B-AS*

Example 2: case no: FB00-1257, post mortem kit item PM 2F, vaginal swab, sperm cell fraction, homicide. Specimen ID number will be: *00-1257-PM2F-VSSF-HO*

Example 3: case no: FB08-01034, voucher P124589, item #1B: glove, scrapings, burglary. Specimen ID number will be: *08-01034-589-GLSCR-BU*

Example 4: Cellmark Diagnostics backlog case CD01-0001, voucher K321123, sexual assault kit underwear stain 1A1, sperm cell fraction, sexual assault. Specimen ID number will be: *CD01-0001-123-UWIAISF-SA*

There is a maximum limit of 24 characters for the specimen identification number in CODIS. The above specimen identification system should not be deviated from unless it is necessary to distinguish two samples.

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### 4.2 General Guidelines for Entering STR Profiles into CODIS (see also table at the end of this section)

- 4.2.1 Procedures for determining STR typing results are detailed in the current Forensic Biology STR manual.
- 4.2.2 All STR profiles that are CODIS eligible must undergo technical review prior to entry into LDIS. The technical review includes evaluation of associated positive and negative controls, the eligibility of the DNA profile for LINKAGE and/or CODIS, as well as ensuring that appropriate exemplars and/or elimination samples have been requested at least twice.
- 4.2.3 All 13 core STR loci must be attempted on appropriate samples in order for that sample's data to be eligible for CODIS.
- 4.2.4 A minimum of 6 loci are necessary for entry into CODIS in order to be uploaded to SDIS. A minimum of 10 loci are necessary in order to be uploaded to NDIS.
- 4.2.5 The DNA result from each locus will be entered on the CODIS sheet in the form p, q for heterozygotes (in ascending order) and p, p for homozygotes (for example, TH01 6, 7 or 6, 6).
- 4.2.6 In certain circumstances, a single obligate allele may be entered as p+. For single-source DNA profiles, this is allowable only as described in section 4.3.6b
- 4.2.7 Forensic mixture DNA profiles shall have up to 4 alleles at a maximum of 4 core loci (the "4 x 4 rule"). Any of the remaining core loci shall have no more than 2 alleles at each locus. NOTE: this means that a 2-allele mixture identified by peak imbalance does not count against the rule and is not considered a mixture by the CODIS software.
- 4.2.8 Only DNA data derived from analysis of NDIS accepted PCR loci/systems shall be entered into CODIS. NDIS accepted PCR loci/systems are referenced in the *FBI NDIS Standards for acceptance of DNA Data*.

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4.2.9 Forensic Biology Laboratory reports that contain results eligible for entry into CODIS contain a statement indicating that this information has been added to and will be maintained in the CODIS system.

4.2.10 Currently, profiles developed using Low Copy Number amplification techniques are not eligible for entry into NDIS. They can, however, be uploaded to NY-SDIS for searching, via the Low Copy Number Index. Samples in this SDIS Index are unmarked for any further upload (i.e. to NDIS).

### 4.3 Guidelines for Entering STR Profiles Derived from Mixed Samples into CODIS (see also table at the end of this section)

4.3.1 All mixtures refer to the situation where the DNA profile from the evidence is composed of alleles from more than one individual.

4.3.2 A minimum of six fully-deduced loci must be present in a mixture sample for the mixture profile to be eligible for entry into NDIS. As many loci and alleles as possible should be included in the profile submitted to the database.

4.3.3 When a locus can be only partially deduced, use of the obligate allele designator, a “+” aids in stringency searches by preventing some of the fortuitous matches possible at mixed loci.

4.3.4 A locus may be designated inconclusive (“INC”) on the DNA Profile Evaluation form or CODIS sheet at the discretion of the interpreting analyst and their supervisor if an ambiguity exists at that locus (see section for Type II mixtures below). This locus, however, may still be used in the confirmation process once a candidate match is made.

4.3.5 **Type I mixture** - the results are such that it is possible to determine/deduce a complete profile of a contributor at 6 or more loci. The deduced profile of the major contributor or the major component will be entered into LINKAGE and LDIS.

Only if the allele intensities are such that the minor component can clearly be deduced at six or more loci will the deduced DNA profile of the minor component be entered into LINKAGE and LDIS.

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4.3.6 **Type II mixture** - the results are such that it is not possible to determine/deduce a complete profile of a contributor at all loci; the allele intensities are such that the contributor can be deduced at some loci but not at other loci. Enter the alleles at all deduced loci. Any loci that cannot be deduced can be entered as a mixture with the obligate allele indicated on the CODIS sheet with a "+". Because of possible allele sharing, all alleles at these loci must be listed on the CODIS sheet (even if you know they belong to the victim).

The mixture loci cannot be entered into LINKAGE but will be entered into LDIS. There are two options for entering partially known loci when not all of the possible alleles at that locus are confirmed.

Type II mixture – **option one** for entry of a mixture locus: Enter the locus as "INC". This may be the method of choice when your profile contains good data at most of the loci, and the loss of one or two loci still leaves a profile expected to be seen in 1 in more than a trillion people.

Type II mixture – **option two** for entry of a mixture locus: If only one of the potentially two alleles of the profile at that locus can be determined (due to LCN interpretation rules) or after all attempts to get results for a clearly visible but below threshold peak have failed, enter the one known allele with a "+". This is a CODIS method of designating that "another allele may be present at this locus." The advantage of listing one known allele over none or "INC" is that a match might be found at moderate stringency, but will prevent at least most of the spurious candidate matches which might occur if nothing at all is entered for that locus.

For example, a 10+ would match 9, 10; 10, 10; 10, 11... but would preclude anything that contained no 10 allele, for example, 9, 9; 9, 11; 9, 12... would not match, in contrast to an "INC", or no entry at that locus, which would allow any allele to appear at that locus and not be a mismatch.



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This option is only meant to enhance a limited number of loci in a profile, for instance to enable a profile with 9 loci to meet the minimum amount (10 loci) needed in order to be searched at NDIS instead of being stopped at SDIS. Certain criteria must be met and documented for the CODIS group in order to justify using this method:

- Maximum 2 loci enhanced by this method.
- A statistical significance of the profile (or deduced loci) being approximately 1 in greater than 500,000,000. A copy of the population statistics printout must be provided to the CODIS group with a DNA profile of this type.
- This is the one and only instance on a CODIS sheet when a single allele is entered in the box for that locus. The “+” must also be present.
- The interpreting analyst and/or supervisor submitting such a profile may be called upon to evaluate all candidate matches found when the profile is searched.

NOTE: Since DNA profiles developed using Low Copy Number techniques are not eligible for entry into NDIS, and are searched only at LDIS and SDIS, as indicated by the first criteria listed above, can be waived.

#### **4.4 Entering STR Profiles into LINKAGE**

- 4.4.1 DNA profiles will be entered into LINKAGE by Criminalist IIIs, Criminalist IVs, or management only. DNA profiles may be entered into LINKAGE without technical review; however, at the time the case file receives technical review the previously entered DNA profiles must be checked for eligibility and accuracy.
- 4.4.2 LINKAGE will be maintained separately from the CODIS software in the LINKAGE database on the Forensic Biology network.
- 4.4.3 LINKAGE contains STR loci from STR systems on- (or previously on-) line in the Forensic Biology laboratory. LINKAGE does requires a minimum number of 6 loci to be entered, but requires non-mixture (or fully-deduced) loci only be entered.

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4.4.4 Profiles matching the victim or elimination samples (for example, a family member or a consensual sex partner) unambiguously will not be entered into LINKAGE. For a profile to be unambiguously attributed to the victim or elimination sample, an exemplar must be tested and compared to the profile in question. *It is not sufficient to make an assumption based on case information that the profile in question matches the victim or consensual sex partner.*

NOTE: DNA profiles are eligible for LINKAGE and/or LDIS only if a crime has been committed. If a case has been deemed to be unfounded by the NYPD, no DNA profile generated in that case is eligible for entry.

4.4.5 Local suspect profiles will be entered into LINKAGE, unless a properly executed court order dictates otherwise concerning a specific sample. When any court order or similar paperwork is received, the OCME Legal Department must be consulted and provided a copy of the paperwork.

4.4.6 Non-victim DNA profiles derived from evidence that are not eligible for CODIS entry will be entered into LINKAGE (for example, a profile obtained from the clothing of a suspect).

### 4.5 Entering STR Profiles into LDIS

4.5.1 CODIS eligible profiles will be entered into LDIS by CODIS software trained staff only. The profiles entered into LDIS must fall into one of the following CODIS categories: Forensic Unknown, Low Copy Number, Missing Persons Index, the Relatives of Missing Persons Index or the Unidentified Human (Remains) Index) or Other (see section 1.0 - CODIS Terms and Abbreviations for definitions; for procedural guidelines on how to enter a profile into LDIS, see the *FBI CODIS Training Manual*). For a list of NDIS-approved STR PCR kits, consult the current version of *NDIS Procedures*.

4.5.2 Profiles matching the victim or elimination samples (for example, a family member or a consensual sex partner) unambiguously will not be entered into CODIS. For a profile to be unambiguously attributed to the victim or elimination sample, an exemplar must be tested and compared to the profile in question. *It is not sufficient to make an assumption based on case information that the profile in question matches the victim or consensual sex partner.*

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- 4.5.3 Profiles that are clearly unrelated to a case or crime will not be entered into CODIS. For example, a semen profile from a condom from which a female profile was determined and the victim is excluded as the female contributor of DNA. This will be at the discretion of the appropriate Assistant Director and the CODIS Program Manager. The determination can be aided using the CODIS *Guide to Determining What is Allowable for Entry into the Forensic Index at NDIS*.
- 4.5.4 Local suspect profiles are not currently entered into the CODIS system.
- 4.5.5 Entry of a profile into LDIS will be documented on the CODIS sheet. A copy of the CODIS sheet will be put in the file and the original will be filed in binders in the CODIS area.
- 4.5.6 Upload of a profile to SDIS will be documented by including a printout of the CODIS Specimen Detail Report in the case file. While secondary and later profiles in a pattern are not uploaded to SDIS, the Specimen Detail Report should still be generated, as it indicates the specimen's entry into the Pattern/Other index at LDIS.
- 4.5.7 Off ladder alleles above or below the allelic ladder are entered as < (lowest allele at that locus) or > (highest allele), respectively.
- 4.5.8 Off ladder alleles in which the subtype can not be determined unambiguously should be entered in the form: repeat number.x (for example, 23.x).
- 4.5.9 If a discrepancy exists on a CODIS sheet (for example, writing is not legible, no signature of reviewer, specimen ID appears incorrect or is too long) the Interpreting Analyst (IA) or the reviewing Criminalist IV or Assistant Director for that sheet must resolve the discrepancy **before** the data from that sheet is entered. Specimen ID problems may be corrected by a member of the CODIS support staff. Interpretation issues should be discussed with the appropriate Assistant Director.

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### 4.6 Modifying or deleting an STR Profile from CODIS

4.6.1 Modification of data already entered into CODIS may be due to several reasons:

- Additional testing has been completed on the sample.
- An interpretation error was discovered regarding the profile.
- The profile could be improved by the addition of the obligate allele designator “+”.

Once it has been determined that a profile must be modified in CODIS, a Profile Modification form (see Appendix 9.2) should be filled out and submitted to the CODIS staff for processing. The original Profile Modification form will be maintained in the Profile Modification form binder and a copy will be placed in the case file.

4.6.2 Any modification to a DNA profile previously uploaded to SDIS will be documented in the profile modification log (see Appendix 9.3).

4.6.3 Reasons for administrative removal/expungement might include: a profile entered is later determined to be an elimination sample, legal expungement, a determination that the profile should not have been entered into CODIS due to a user problem (for example, the IA has failed a proficiency test during the time the data was generated) or a systemic laboratory problem.

Once it has been determined that a profile must be deleted from CODIS, a CODIS deletion form (see Appendix 9.4) must be filled out and submitted to the CODIS staff for processing. Unless there are time restraints surrounding the deletion (for example, in response to a court order requiring it before the next local upload; if so, an Expungement Request letter will be sent to the SDIS custodian (see Appendix 9.5)), the deletion will be processed with the next upload to SDIS.

The original form will be maintained in the Case Deletion/Expungement form binder and a copy will be placed in the case file. The deletion will also be recorded in the Upload Deletion/Expungement log (see Appendix 9.6) at the time it is processed. The deletion portion of the reconciliation report from the upload will also be printed and placed in the Case Deletion/Expungement form binder confirming that the deletion was received by SDIS.

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### 4.7 Routine Searches of LINKAGE and LDIS

- 4.7.1 Interpreting analysts and their supervisors will routinely compare appropriate preliminary DNA profiles to those in LINKAGE.
- 4.7.2 LDIS autosearches will be conducted after the addition of new profiles into LDIS and before an upload to SDIS. This search will serve to ensure that no intra-laboratory DNA matches were overlooked in LINKAGE and to track local DNA hits using the CODIS system. LDIS autosearches will be performed by the CODIS staff only.
- 4.7.3 All LDIS autosearches will be conducted at moderate or high stringency using a minimum of six loci. The default setting is moderate.
- 4.7.4 All LDIS candidate matches will be examined. The CODIS staff will investigate any matches not already documented and ensure that all proper notifications are prepared, reviewed and made immediately. The CODIS group may return such matching files to the IA and supervisor who submitted the specimen, and delegate the match notifications to them.

### 4.8 Uploading Profiles to SDIS/NDIS and Search Policies

- 4.8.1 All appropriate LDIS profiles will be uploaded into SDIS by the CODIS staff. Currently New York State local DNA laboratories upload to SDIS biweekly, with the SDIS search performed shortly thereafter. Forensic STR Index, Unidentified Human (Remains) Index and Missing Person Index profiles containing 10 or more loci are searched at both high and moderate stringency. Forensic STR Index, Unidentified Human (Remains) Index and Missing Person Index profiles containing 10 or more loci. Profiles with 6-9 loci are searched at high stringency only.
- 4.8.2 LDIS profiles for upload to SDIS will be from evidentiary samples only. **Under no circumstances will known human reference samples be uploaded to SDIS forensic indexes. Such profiles may be entered into the Missing Persons Index, the Relatives of Missing Persons Index or the Unidentified Human (Remains) Index) if appropriate.**

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- 4.8.3 Only one (1) putative perpetrator profile per Forensic Biology DNA pattern will be uploaded to SDIS. Additional profiles from patterns will be placed in the Pattern/Other Index in LDIS, and will be unmarked for upload.
- 4.8.4 Uploads to NDIS will take place as scheduled by the SDIS custodian.

### 4.9 Other Searches

- 4.9.1 Only DNA profiles developed by the Department of Forensic Biology may be compared to and entered into LINKAGE. Requests to compare other DNA profiles to LINKAGE will not be approved and are not allowed.
- 4.9.2 Keyboard searches of LDIS, SDIS, and NDIS are only allowed of DNA profiles derived from evidence. Keyboard searches of DNA profiles from known individuals is not allowed.
- 4.9.3 Keyboard search requests of SDIS/NDIS are addressed to the Databank coordinator. This search is requested through the DCJS Databank coordinator and is executed at the discretion of the SDIS custodian.
- Keyboard search requests of LDIS are addressed to the CODIS custodian, CODIS Program Manager, or the laboratory director.
- 4.9.4 There are assorted reasons a keyboard search would be requested by a laboratory. All requests must be accompanied by a Justification for Keyboard Search Request form (see Appendix 9.7).

**Reason #1:** The requesting laboratory wants to search a profile that does not meet the minimum loci requirements for SDIS or NDIS entry or would not be searched based upon SDIS or NDIS current search policy. Keyboard searches for this reason must be, accompanied with a documented scientific reason justifying the search (for example, apparent presence of mixtures, sample degradation or limited sample availability). Scientific justification must include but is not limited to a statistical significance of the profile (or deduced loci) being approximately 1 in greater than 500,000,000. A copy of the population statistics printout must be provided to the CODIS group with a justification of this type.

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**Reason #2:** - The requesting agency wants to search a profile before the next search in a situation where a known convicted offender is a suspect in a particular case and there is an urgency for an expedited search. The initial request from a Bureau Chief from one of the District Attorney's Offices must be submitted in written form, **must be accompanied with a valid justification for the urgency, and it must be confirmed that the suspect in question is, in fact, in the databank. This confirmation is the responsibility of the requesting agency.** There must also be a documented conversation with an Assistant Director and appropriate case information. **Case information from the DAO must include:** the suspect's full name, NYSID number, social security #, and any known aliases.

The following reasons are considered valid urgency justifications by the Department of Forensic Biology to request a keyboard search to expedite a CODIS search at SDIS or NDIS:

- A suspect has been arrested for a particular case and will be released without the search. Additionally, there is no other evidence (eyewitness, fingerprints, etc.) to hold the suspect and attempts to obtain a DNA sample from the suspect have been exhausted.
- A strong investigative lead has developed a suspect in a particular case and the search will lead to an arrest. Additionally, there is no other evidence (eyewitness, prints, etc.) to arrest the suspect and attempts to obtain a DNA sample from the suspect have been exhausted.

**NOTE:** Even if the DAO or NYPD can confirm a potential suspect has qualified for entry in the convicted offender databank this does not insure the sample has been collected, processed, or entered into the offender databank. Expedition of a convicted offender sample by DCJS does not have to be in response to a keyboard request. If the suspect is based on a strong investigative lead and the investigator wants to insure the corresponding convicted offender sample is in the offender databank before the next routine search they should be referred to DCJS. Investigators should always be advised to attempt to obtain a DNA sample from the suspect and submit it directly to Forensic Biology.

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**Reason #3:** - The requesting agency and/or the Department of Forensic Biology wants to search a profile before the next search in a situation where there is an urgency for an expedited search to attempt to identify an offender in a serious or serial crime.

**Reason #4:** The requesting laboratory is not CODIS ready. This type of search method is performed for criminal justice agencies that do not have access to CODIS. **All requests for keyboard searches from agencies that do not have CODIS should be referred to the NYS DCJS Databank coordinator.** This will enable the requesting agency to benefit from a statewide search and avoid duplicate local searches.

- 4.9.5 Both the CODIS Custodian/Supervisor and the CODIS Program Manager must approve keyboard search requests. Disagreements between the CODIS Program Manager and the analyst, supervisor, or manager requesting a keyboard search will be resolved by the laboratory director.

Once a keyboard search request has been approved, the interpreting analyst will fill out a Forensic Biology Keyboard Search Request form (see Appendix 9.8) and forward it to the CODIS staff for processing. All keyboard search requests will be processed by the CODIS staff. If the keyboard search request is for SDIS, the CODIS supervisor will discuss the request and case information with the DCJS Databank coordinator via telephone and fax the request form accordingly. The original request form and search results will be kept in the case folder. Keyboard search requests from outside laboratories are kept in the Keyboard Search requests binder. **The interpreting analyst requesting the keyboard search will be responsible for evaluating all candidate match results from the search within 15 days of receiving the results from the CODIS staff.**

**NOTE:** Prior to faxing a Keyboard Search Request form to SDIS, the CODIS staff will first perform an autosearch to identify any local candidate matches.

- 4.9.6 A forensic profile may be searched at a non-CODIS databank (for example, via Interpol). See the NDIS Procedures for further information.



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4.9.7 A non-US forensic profile may be searched at NDIS upon request to the FBI and at their discretion. Such a profile may NOT be searched at LDIS.

**Table – CODIS sheet entries for STR profiles derived from mixed samples**

STR result	Interpretation	CODIS sheet	Will match
7, 8, 9	deduced contributor is 9, 9	9, 9	9, 9 (high stringency)
7, 8, 9	deduced contributor is 8, 9	8, 9	8, 9 (high stringency)
7, 8, 9	deduced contributor is 9, Z (where Z is either a 7 or 8 or 9)	7, 8, 9+	7, 9 or 8, 9 or 9, 9 (moderate stringency)
7, 8, 9**	deduced contributor is 9, Z (other non-called allele, possible drop-out, or LCN possible false homozygote)	INC or 9+	n/a  9 plus any other allele (moderate stringency)

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Only the NYPD designee(s) and the appropriate DAO's designee(s) are notified. *Do not notify Detectives or ADA's directly* - they will be notified by their superiors.

DNA matches are made using the web-based DNA-HITS application. If DNA-HITS is unavailable for > 24 hours, make notifications using a faxed notification letter (see Appendix 9.18); follow up with DNA-HITS notification when it becomes available.

Members of lab management have privileges in the program to add or delete authorized users. Case analysts have varying levels of privileges within the program. All interpreting analysts plus certain clerical and CODIS staff members have login privileges and can enter match information. Supervisors, management and certain CODIS staff members have approval privileges for matches. The program will not notify a match until it has been approved.

#### 5.1 Verifying LINKAGE/LDIS Matches

Discovering and confirming matches, and making timely match notifications, are among the highest priority tasks done in the Department of Forensic Biology. *Any delay in any one of these steps can result in additional crimes being committed that may have been preventable.* It is not necessary to have all analyses completed or reports written, just that the required data is available for review of the match.

Match notifications are only necessary for a "cold hit" where we would be supplying information not already available. "Cold hit" means no one thought the cases (or suspect) were linked previously; if we were specifically asked to compare cases, or the same suspect is listed, it is not a "cold hit" and this process is not required.

The following procedure should be followed when reporting local matches discovered via LINKAGE or LDIS.

In the event an analyst suspects there is a cold hit between two cases or between a case and a suspect file, their supervisor should be notified **immediately**. Expedite additional testing (including exemplars if needed) to determine if you have a true match or a fortuitous match. Once you have confirmed the match, continue the process.

Pull the previous case(s). For a case-to-case match, compare the information available in the files: precinct, location of occurrence, description of assailant, details of the assault, etc. If any 61 forms are missing, have a supervisor arrange to get a copy. (This step is not required for NYPD project cases.)

If any of the information in the 61 forms seems inconsistent, discuss with your supervisor.

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### 5.0 VERIFYING AND REPORTING DNA MATCHES

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For case-to-case matches, determine whether the matching samples were processed together:

- Evidence exam on the same date with the same analyst?
- DNA extraction and/or amplification worksheet the same date and time?

If so, see your supervisor and Assistant Director immediately.

Transfer the newly linked case to the IA from the previous case. Have your supervisor update records to reflect the new case assignment. (This step can be done after notifications, if desired.)

Fill out a DNA Profile Evaluation form listing the case(s) your case is linked to.

**Enter the match(es) into DNA-HITS using the procedure in section 5.4**

### 5.2 Verifying and Reporting SDIS Matches

With DNA matches identified at SDIS, both laboratories involved in the match have confirmation responsibilities. All matches will be resolved by the CODIS staff, with the following exceptions: Low Copy Number samples, Missing Persons cases, and Property Crimes mixtures.

**Responses to all candidate matches must be immediate.** The final disposition of the candidate match to the SDIS custodian must be reported no later than 30 days after receiving the match report.

#### 5.2.A Verifying and Reporting SDIS Convicted Offender Matches

The CODIS staff will print out the Candidate Match Detail Reports from the CODIS system along with a Match Inventory list (a summary list of all the cases involved in the candidate matches) and retrieve the corresponding files.

Each candidate match report and corresponding file must be reviewed to confirm whether or not the two profiles indeed match. The analyst reviewing the file must fill out a Candidate Match Confirmation checklist (see Appendix 9.9).

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### 5.0 VERIFYING AND REPORTING DNA MATCHES

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If any modifications to the DNA profile are needed, a Profile Modification form must be filled out by the analyst reviewing the data (see section 4.6), and submitted to the CODIS group. It is not necessary to wait for the profile to be modified to continue in the confirmation process.

After the match confirmation checklist is filled out and if the profiles match, a NYS DNA Databank Candidate Match Confirmation form (see Appendix 9.10) must be filled out and completed. This form communicates to DCJS and the Databank coordinator the case information, and that the candidate match is, in fact, a true match. Therefore, **one** NYS DNA Databank Candidate Match Confirmation form for **every** confirmed candidate match listed on the Match Inventory must be completed. The NYS DNA Databank Candidate Match Confirmation form is then faxed to DCJS.

If a candidate match to a convicted offender is NOT a true match, a notation to that effect is made on the Candidate Match Detail Report and that sheet is filed in the case file. Also, the candidate match is immediately dispositioned in the CODIS system as “No Match” and NYS DCJS is sent a list of the “No Match” cases from that search’s results.

If a candidate match to another laboratory’s forensic profile is not a match, the other laboratory should be contacted by fax or email to confirm they have reached the same conclusion. File such correspondence in the case file.

Upon receipt of the NYS DNA Databank Candidate Match Confirmation forms from our laboratory, and upon receipt of confirmation of the offender sample from the NYS DNA Databank coordinator, DCJS will release the convicted offender’s name, via fax, in the form of a DCJS Match Letter (see the current version of the *New York State COmbined DNA Index System Procedures*). This letter will contain the name of the offender, any aliases, the NYSID # and convicted offender’s current location.

#### **Enter the match(es) into DNA-HITS using the procedure later in section 5**

If the confirmed match has linked a convicted offender to an unsolved case, the investigating agency must obtain an exemplar from the convicted offender and submit to the laboratory for retesting prior to proceeding to trial. This information is located on the DCJS Match Letter that is available to the District Attorney’s office upon request.

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**The DCJS Match Letter should be used by the DAO to obtain the court order authorizing the collection of the exemplar.** The Department of Forensic Biology will perform testing on the exemplar to replicate the DNA match of the offender to the forensic sample(s) and to testify in court to the match. Questions from the DAO regarding offender information, offender blood draws, etc. should be directed to DCJS. **Analysis of the exemplar by Forensic Biology is generally not necessary for grand jury proceedings. This analysis, however, is necessary before trial.**

**5.2.B Verifying and Reporting SDIS Forensic Matches**

The CODIS staff will print out the Candidate Match Detail Reports from the CODIS system along with a Match Inventory list (or a summary list of all the cases involved in the candidate matches) and retrieve the corresponding files.

Each candidate match report and corresponding file must be reviewed to confirm the profile data sent to SDIS is accurate. The analyst reviewing the file must fill out a Candidate Match Confirmation checklist.

If any modifications to the DNA profile are needed, a Profile Modification form must be filled out by the analyst reviewing the data (see section 4.6). It is not necessary to wait for the profile to be modified to continue in the confirmation process.

After the data is reviewed, the other laboratory involved in the match must then be notified via telephone, fax or email and the match (or non match) verified. Both laboratory's case numbers and ORI numbers are on the Match Detail Report and on the Match Inventory list. The contact information for all CODIS laboratories can be found on the CJIS-WAN. Standard case contact protocol should be followed to document any correspondence or conversations.

If it is verified the candidate match is a non-match, the process stops here. All case contacts should be documented on the checklist accordingly.

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### 5.0 VERIFYING AND REPORTING DNA MATCHES

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If it is verified to be a true match, information regarding the cases must be exchanged. The CODIS DNA Match Data Request and Response form (see Appendix 9.11) is faxed to the other laboratory. This form facilitates the exchange of information. Information on this form, if available, should include:

- Contact information for your submitting police agency.
- Contact information for your laboratory.
- Laboratory and police identification numbers (Forensic Biology and complaint numbers).
- Whether the case is solved (i.e. by DNA).
- Suspect information (for example, name, NYSID #, has he/she been tested at our lab, etc.).
- General case information (for example, date of occurrence, type of crime, etc.)
- If the case with the match at SDIS is one of a local pattern, information regarding both/all should be provided to the other laboratory.

Upon receipt of the response from the other laboratory, the match is confirmed. This form documents that the candidate match between the two laboratories was acknowledged, each laboratory has finished their review process, both laboratories are confirming the match and that case information has been exchanged.

**Enter the match(es) into DNA-HITS using the procedure in section 5.4**

### 5.3 Verifying and Reporting NDIS Matches

With DNA matches identified at NDIS, both laboratories involved in the match have confirmation responsibilities. All NDIS matches will be resolved by the CODIS staff.

Responses to all candidate matches must be immediate. The final disposition of the candidate match to the NDIS custodian must be reported no later than 30 days after receiving the match report.

#### 5.3.A Verifying and Reporting NDIS Convicted Offender Matches

The CODIS staff will print out the Candidate Match Detail Reports from the CODIS system along with a Match Inventory list (or a summary list of all the cases involved in the candidate matches) and retrieve the corresponding files.

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### 5.0 VERIFYING AND REPORTING DNA MATCHES

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Each candidate match report and corresponding file must be reviewed to confirm whether or not the two profiles indeed match. The analyst reviewing the file must fill out a Candidate Match Confirmation checklist.

If any modifications to the DNA profile are needed, a Profile Modification form must be filled out by the analyst reviewing the data (see section 4.6), and submitted to the CODIS group. It is not necessary to wait for the profile to be modified to continue in the confirmation process.

After the data is reviewed, the other laboratory involved in the match must then be notified via telephone, fax or email and the match (or non match) verified. Both laboratory's case numbers and ORI numbers are on the Match Inventory list. The contact information for all CODIS laboratories can be found on the CJIS-WAN. Standard case contact protocol should be followed to document any correspondence or conversations.

If it is verified the candidate match is a non-match, the process stops here. All case contacts should be documented on the checklist accordingly.

If it is verified to be a true match, information regarding the cases must be exchanged. The CODIS DNA Match Data Request and Response form is faxed to the offender laboratory. This form facilitates the exchange of information. Information on this form, if available, should include:

- Contact information for your submitting police agency.
- Contact information for your laboratory.
- Laboratory and police identification numbers (for example, FB#, complaint no., etc.).
- Whether the case is solved (i.e. by DNA).
- Suspect information (for example, name, NYSID #, has he/she been tested at our lab, etc.).
- General case information (for example, date of occurrence, type of crime, etc.).
- If the case with the match at SDIS is one of a local pattern, information regarding both/all should be provided to the other laboratory.

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Upon receipt of the CODIS DNA Match Data Request and Response form from our laboratory, and upon the offender laboratory's confirmation of the offender sample, the match is confirmed. The offender laboratory will release the convicted offender's name, via fax, in the form of a match letter. This letter will contain the name of the offender, any aliases, the State ID #, current location, and usually their SS#.

#### **Enter the match(es) into DNA-HITS using the procedure in section 5.4**

If the confirmed match has linked a convicted offender to an unsolved case, the investigating agency must obtain an exemplar from the convicted offender and submit to the laboratory for retesting prior to proceeding to trial. This information is located on the match letter that is forwarded to the District Attorney's office. **The match letter should be used by the DAO to obtain the court order authorizing the collection of the exemplar.** The Department of Forensic Biology will perform testing on the exemplar to replicate the DNA match of the offender to the forensic sample(s) and to testify in court to the match. Questions from the DAO regarding offender information, offender blood draws, etc. should be directed to the agency contact information given on the CODIS DNA Match Data Request and Response form. **Analysis of the exemplar by the Department of Forensic Biology is generally not necessary for grand jury proceedings. This analysis, however, is necessary before trial.**

#### **5.3.B Verifying and Reporting NDIS Forensic Matches**

The CODIS staff will print out the Candidate Match Reports from the CODIS system along with a Match Inventory list (a summary list of all the cases involved in the candidate matches) and retrieve the corresponding files.

Each candidate match report and corresponding file must be reviewed to confirm the profile data sent to NDIS is accurate. The analyst reviewing the file must fill out a Candidate Match Confirmation checklist.

If any modifications to the DNA profile are needed, a Profile Modification form must be filled out by the analyst reviewing the data (see section 4.6), and submitted to the CODIS group. It is not necessary to wait for the profile to be modified to continue in the confirmation process.



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After the data is reviewed, the other laboratory involved in the match must then be notified via telephone, fax or email and the match (or non match) verified. Both laboratory's case numbers and ORI numbers are on the Match Inventory list. The contact information for all CODIS laboratories can be found on the CJIS-WAN. Standard case contact protocol should be followed to document any correspondence or conversations.

If it is verified the candidate match is a non-match, the process stops here. All case contacts should be documented on the checklist accordingly.

If it is verified to be a true match, information regarding the cases must be exchanged. The CODIS DNA Match Data Request and Response form is faxed to the other laboratory. This form facilitates the exchange of information. Information on this form, if available, should include:

- Contact information for your submitting police agency.
- Contact information for your laboratory.
- Laboratory and police identification numbers (for example, FB#, complaint no., etc.).
- Whether the case is solved (i.e. by DNA).
- Suspect information (for example, name, NYSID #, has he/she been tested at our laboratory, etc.).
- General case information (for example, date of occurrence, type of crime, etc.).
- If the case with the match at SDIS is one of a local pattern, information regarding both/all should be provided to the other laboratory.

Upon receipt of the response from the other laboratory, the match is confirmed. This form documents that the candidate match between the two laboratories was acknowledged, each laboratory has finished their review process, both laboratories are confirming the match and that case information has been exchanged.

**Enter the match(es) into DNA-HITS using the procedure in section 5.4**

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#### 5.4 Making notifications using DNA-HITS

NOTE: If a new match (case-to-case, case-to-suspect or case-to-offender) is identified to a pattern that pre-dated DNA-HITS, the *previous matches* must be entered into DNA-HITS *prior* to the new match. In the Notes section, make reference to the previous match letters, including match letter number as well as the date of the original notification.

Step 1: Using the internet, go to the DNA-HITS program. Change the drop-down menu to “OCME”, then login using your OCME user name and password.

Step 2: Click on “Create New Local Hit” tab in the upper right hand corner.

Step 3: Using the drop-down menu, select the appropriate match type.

Step 4: Enter the case numbers for the new match and click on “Search”.

NOTE: For notifications on a new case in an existing pattern, the two cases entered here should be the new case and the **first case** of the pattern. The first case is generally the one whose DNA profile is represented in CODIS; see a supervisor or a member of the CODIS group if unsure which case is the first case.

Step 5: Using the drop-down menu, select the appropriate search type (usually LINKAGE for local matches). If this is not done, all the information will be lost and will have to be reentered.

If one of the cases was involved in a previous DNA-HITS match, information for that case will be entered automatically. If both cases are new to DNA-HITS, all fields marked in yellow are required to be entered. In addition, enter information into fields corresponding to information generally included in the match letter, such as date of occurrence etc. NOTE: be careful in using the drop-down menus; make sure what you select is what stays selected by moving the cursor off of the drop-down menu and clicking.

Step 6: For the ‘Criminalist’ section, if the analyst assigned (the IA for the cases) is not on the drop-down list, deselect ‘Select’ and manually type in the analysts last and first names; use normal capitalization.

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Step 7: Click on “Get Approval”. If any red error messages appear, fix the problem and click on “Get Approval” again. Once there are no errors, the screen will return to the “Create New Entry” mode and inform you that you have successfully entered a match.

Step 8: Have the cases reviewed by a Criminalist IV and/or Assistant Director.

Step 9: Have a Criminalist IV or Assistant Director approve the match in DNA-HITS. Once approved, the Criminalist IV or Assistant Director will receive a DNA-HITS confirmatory email from DNAHITS@cityhall.org.

Step 10: Print out the DNA-HITS email confirmation and place in each file.

Step 11: Forward the DNA Profile Evaluation form(s) to the CODIS group in-box.

### 5.5 Organization of CODIS Paperwork in Files

Left side of file: if all paperwork was properly completed and photocopied, the left side of the file should contain:

- Forensic Biology, Cellmark, Bode or Genescreen report
- DNA Profile Evaluation form (CODIS sheet) - copy
- Specimen Detail Report – printout from computer
- Candidate Match Detail Report - printout from computer
- Candidate Match Confirmation checklist - original
- Candidate Match Confirmation form - copy
- DCJS Match Letter – copy faxed by DCJS
- DNA-HITS confirmation email – printout from email (CODIS staff does not need a copy)

## FORENSIC BIOLOGY CODIS MANUAL

### 6.0 CASE DISPOSITION AND HIT COUNTING

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#### 6.1 Case Disposition

- 6.1.1 After the completion of all notifications, the CODIS staff will follow up on the disposition of all DNA matches notified during the month. This information is obtained from the NYPD designee.
- 6.1.2 Depending on information given about each case, each DNA match is dispositioned as one of the following three: Forensic Hit, Offender Hit, Investigative Information or Conviction Match (see section 1.0 CODIS Terms and Abbreviations for definitions).
- 6.1.3 Other dispositions that may be used are: Pending, Offender Duplicate, User Defined 1, 2, 3 or No Match (see section 1.0 CODIS Terms and Abbreviations for definitions).

#### 6.2 Hit Counting

- 6.2.1 Hit statistics or hit counting is a requirement for participation in the CODIS program. These statistics are used to track the effectiveness of the program and the successes of the laboratories. The problem: how to give credit to all participants without inflating the total number of hits (for example, if 2 local laboratories link their cases through a hit at State, both local laboratories and the state laboratory all want to claim hits - a total of three hits - when only one hit occurred).
- 6.2.2 Solution: hit counting tracks two metrics in CODIS: the number of investigations aided (or 'IAs') by CODIS and the number of hits made by CODIS (see section 1.0 CODIS Terms and Abbreviations for definitions).

Investigations Aided: The primary metric is the number of investigations aided. The number of investigations aided is a better measure of CODIS program performance than the number of hits since the effectiveness of CODIS is ultimately measured by the crime it helps solve.

Hits: The secondary metric is the number of hits made by CODIS. Counting the number of hits gives laboratories credit for their investment in CODIS.

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#### 6.2.3 Rules of Hit Counting:

**Rule #1:** The level in the CODIS hierarchy (GDIS, SDIS, NDIS) at which the hit occurs gets credit for the hit.

**Rule #2:** *A single hit may aid more than one investigation.* A hit linking five separate crimes is still only one hit. However, for each case assisted, the laboratory gets credited one “investigation aided” (IA)

**Rule #3:** An investigation may be aided only once - Offender hits take priority over Forensic hits.

#### 6.2.4 Scenario examples and Corresponding Scorecard:

**Scenario 1:** On Day #1, OCME uses CODIS to discover a match between two previously unlinked cases.

**Scorecard:** 1 forensic hit (FH), 2 investigations aided (IA)

On Day #2, a new case is submitted to OCME and CODIS matches it to the two cases linked on Day #1.

**Scorecard:** 1 forensic hit, 1 investigation aided

**Scenario 2:** On Day #3, SDIS at Albany links a case from Westchester to a case at the OCME (neither case has been previously aided).

**Scorecard:** 1 forensic hit for Albany (FH), 1 investigation aided for Westchester, 1 investigation aided for OCME, 1 investigation aided in another laboratory for Westchester (IA<sub>s</sub>), 1 investigation aided in another laboratory for OCME, 1 forensic hit at SDIS for Westchester (FH<sub>s</sub>) and 1 forensic hit at SDIS for OCME

**Scenario 3:** On Day #4, a new case from OCME matches a convicted offender from NJSP (hit occurred at NDIS).

**Scorecard:** 1 offender hit for NDIS, 1 offender hit at NDIS for NJSP (OH<sub>n</sub>), 1 offender hit at NDIS for OCME, 1 investigation aided for OCME

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### 6.0 CASE DISPOSITION AND HIT COUNTING

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**Scenario 4:** On Day #5, a new case from OCME matches a new case at NJSP (hit occurred at NDIS).

**Scorecard:** 1 forensic hit for NDIS, 1 investigation aided for OCME, 1 investigation aided for NJSP, 1 forensic hit at NDIS for OCME (FH<sub>n</sub>), 1 forensic hit at NDIS for NJSP, 1 investigation aided in another state for OCME (IA<sub>n</sub>) and 1 investigation aided in another state for NJSP

**Scenario 5:** On Day #6, one of the three OCME cases linked on Days 1 and 2 match a convicted offender at SDIS (Albany), all three cases are now solved.

**Scorecard:** 1 offender hit for Albany, 1 offender hit at SDIS for OCME, no investigations aided

Example scorecard for OCME for above 5 scenarios:

Match Date	FH	IA	FHs	FHn	OHs	OHn	IAs	IAn	OHI
Day #1	1	2							
Day #2	1	1							
Day #3		1	1				1		
Day #4		1				1			
Day #5		1		1				1	
Day #6		0			1				
Total	2	6	1	1	1	1	1	1	0

6.2.5 Hit counting statistics in the form of a CODIS Hit Counting Scorecard (see Appendix 9.12) are to be submitted to the SDIS custodian and DCJS no later than the 7<sup>th</sup> day of each month. The SDIS custodian forwards state information to the NDIS custodian. In addition to tracking CODIS hits, the number of non-suspect cases that enter the Department of Forensic Biology each month are also tracked and reported to the SDIS custodian and DCJS. NYPD Backlog cases are treated as non-suspect cases and reported in addition to the number of non-suspect Forensic Biology cases.

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7.0 USER MANAGEMENT		
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### 7.1 Users

- 7.1.1 Users are defined as 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. Categories include CODIS Analyst, Non-Host User, and CODIS IT User.
- 7.1.2 The Designated State Official is responsible for collecting all information from participating laboratories within the state, maintaining copies and forwarding required documentation to the FBI.
- 7.1.3 In the Department of Forensic Biology a Qualified DNA Analyst is defined as an Interpreting Analyst who is a Criminalist II or higher title meeting the FBI Director's Quality Assurance Standards. The Department of Forensic Biology will add and remove users using the guidelines established by the FBI in the *NDIS Operational Procedures Manual* and forward the required documentation to the Designated State Official.
- 7.1.4 Users are required to complete the Annual Review of DNA Records Acceptable at NDIS. This computer-based training serves to define and clarify the types of DNA records that are acceptable at NDIS. This is a Federal requirement for participation in the CODIS program. In the Department of Forensic Biology, a CODIS Administrator will ensure that each user completes the training and quiz annually. The certificate from the quiz is printed to confirm that each user has received the annual reminder and understands and will abide by what DNA data is accepted at NDIS. These completed annual reminders will be maintained by the CODIS staff in binders and available for inspection upon request. These certificates are forwarded to the New York State CODIS Administrator. Failure to comply with this requirement may result in suspension of the Department of Forensic Biology's CODIS rights.
- 7.1.5 All paper records regarding CODIS users are maintained by the CODIS staff in binders and are available upon request.

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7.0 USER MANAGEMENT		
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## 7.2 Adding a User to NDIS

7.2.1 To add a user to NDIS, the Designated State Official will send a letter to the NDIS custodian requesting the addition. The Department of Forensic Biology is responsible for forwarding to the Designated State Official the following documentation for each user being added:

- FD-484: Privacy Act explanation.
- FD-258: Fingerprint (10 print) card; two copies.
- FD-816: Background Data Information form.
- CODIS User Information form (see Appendix 9.13)
- External Proficiency Testing Document for each Qualified DNA Analyst (see Appendix 9.14).

7.2.2 The start date for each new user is upon notification by the SDIS custodian of each new user approval.

## 7.3 Removing a User From NDIS

7.3.1 There are two ways to remove a user from NDIS:

A Stop Date is set for the user: this allows previous data from the user to remain in the system, but no further data will be accepted - this is the method the Department of Forensic Biology currently uses

User identification is deleted: this will delete some or all data associated with the user, including any profiles entered or modified by that user.

7.3.2 The Designated State Official will request the removal of a user if any of the following conditions occur:

- The user may leave employment at a participating laboratory or a change of duties makes it inappropriate to continue access to NDIS
- An NDIS user may fail a periodic security check and the FBI's rejection of the security check would require the State to remove the user
- There may be a problem with the data associated with the user, either because the user has received unsatisfactory ratings in external proficiency tests or because data was falsified. Removal of the user may be initiated by either the State or the FBI.



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7.0 USER MANAGEMENT		
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- 7.3.3 The stop date should be set to within 20 working days of when/if any of the above situations occur.
- 7.3.4 Request to remove a user should be submitted to the Designated State Official in written form stating a recommendation regarding all data associated with the user (see Appendix 9.15).

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## FORENSIC BIOLOGY CODIS MANUAL

8.0 QUALITY ASSURANCE/QUALITY CONTROL		
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### 8.1 Proficiency Testing

- 8.1.1 Proficiency testing will be conducted as detailed in the *Department of Forensic Biology's Administrative Manual*.
- 8.1.2 Proficiency test documentation will be maintained and provided annually to NDIS as required by the *NDIS Operational Procedures Manual*. A Qualified DNA Analyst External Proficiency Testing form is saved electronically for each analyst in the CODIS directory of the network. These forms are filled out annually and forwarded to the SDIS Custodian no later than the date designated by the NYS SDIS Administrator. Failure to comply with this requirement may result in suspension of Forensic Biology's CODIS rights.
- 8.1.3 Problems related to proficiency testing will be addressed as detailed in the *Department of Forensic Biology's Administrative Manual*.

### 8.2 Audits

- 8.2.1 Audits of the laboratory will be conducted as detailed in the *Department of Forensic Biology's Administrative Manual*.
- 8.2.2 Audits test documentation will be maintained and provided annually to NDIS as required by the *NDIS Operational Procedures Manual*. Audit documentation will be provided yearly to the SDIS custodian for submission to the NDIS custodian in the form of a Laboratory Audit Certification accompanied with a letter signed by the Laboratory Director (see Appendix 9.16).
- 8.2.3 The Department of Forensic Biology and its CODIS program will be audited as required by "*The Quality Assurance Standards for DNA Testing Laboratories and Convicted Offender DNA Databasing Laboratories*," the national standards issued by the Director of the FBI.

### 8.3 9947A And Other Positive and Negative Control Monitoring

- 8.3.1 9947A and other applicable positive control STR profiles will be compared to the appropriate positive control profile(s) at the time the data is analyzed.

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### 8.0 QUALITY ASSURANCE/QUALITY CONTROL

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8.3.2 Negative controls will be examined at the time the data is analyzed.

8.3.3 A Positive Control Certification letter (see Appendix 9.17) will be sent to the SDIS custodian annually as required by the *New York State Combined DNA Index System Procedures*.

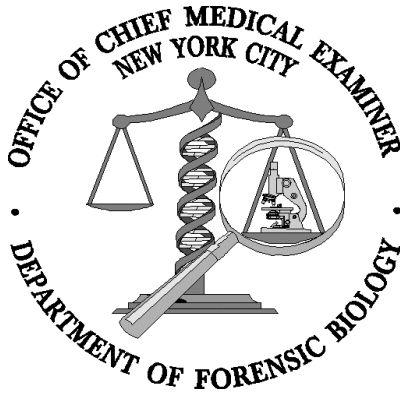
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## FORENSIC BIOLOGY CODIS MANUAL

<b>9.0 APPENDIX</b>		
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- 9.2 [Profile Modification form](#)
- 9.3 [Profile Modification log](#)
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- 9.19 [Entering profiles into LINKAGE](#)



**OFFICE OF CHIEF MEDICAL EXAMINER**

Charles S. Hirsch, M.D., *Chief Medical Examiner*

**DEPARTMENT OF FORENSIC BIOLOGY**

Mechthild Prinz, Ph.D., *Director*

421 East 26<sup>th</sup> Street, New York, NY 10016

Tel: 212.323.1200 · Fax: 212.323.1590 · E-mail: DNALab@ocme.nyc.gov

NYS CODIS Administrator  
NYSP Forensic Investigation Center,  
Building 30  
1220 Washington Avenue  
Albany, New York 12226-3000

NDIS Administrator  
FBI Laboratory, CODIS Unit  
2501 Investigation Parkway  
FBI Academy Complex  
Quantico, VA 22135

(date)

To whom it may concern,

Please remove user:

\_\_\_\_\_

from the National DNA Index System. This user has resigned from the Department of Forensic Biology and will no longer require access to the system after:

\_\_\_\_\_

CODIS user information is enclosed. I recommend that the data associated with this user be retained in the National DNA Index System.

Respectfully,

CODIS Custodian/Supervisor

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## Laboratory Audit Certification

I certify that this laboratory has undergone an audit during the previous year and further that: (1) if it was an external audit; and (2) if the audit recommended that corrective actions were needed, that the corrective actions were completed or that the date by which they will be completed is \_\_\_\_\_.

Laboratory Name: NYC Office of Chief Medical Examiner, Department of Forensic Biology

Laboratory ORI #: NY030011K

Dates of Audit:

External Audit

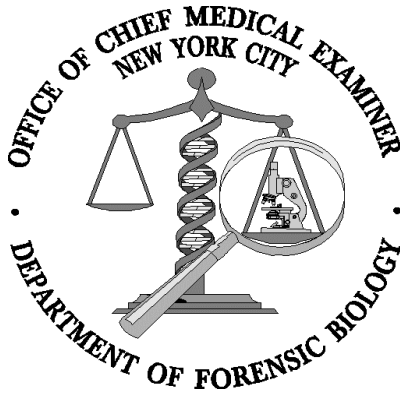
Internal Audit

Corrective Actions required:

Yes  No

\_\_\_\_\_  
Signature of Laboratory Director

\_\_\_\_\_  
Date



**OFFICE OF CHIEF MEDICAL EXAMINER**

Charles S. Hirsch, M.D., *Chief Medical Examiner*

**DEPARTMENT OF FORENSIC BIOLOGY**

Mechthild Prinz, Ph.D., *Director*

421 East 26<sup>th</sup> Street, New York, NY 10016

Tel: 212.323.1200 · Fax: 212.323.1590 · E-mail: DNALab@ocme.nyc.gov

(date)

SDIS Custodian  
c/o New York State Police  
Forensic Investigation Center  
1220 Washington Avenue, Building 30  
Albany, New York 12226-3000

re: Annual Control Certification

Dear SDIS Custodian:

\_\_\_\_\_ “I certify that each DNA profile in the batches to be uploaded into SDIS for the period \_\_\_\_\_ to \_\_\_\_\_ will be associated with a positive human DNA control whose values meet the NIST SRM standards for that control.”

\_\_\_\_\_ “I certify that each DNA profile in the batches to be uploaded into SDIS for the period \_\_\_\_\_ to \_\_\_\_\_ will be associated with two negative controls (one negative amplification blank and one negative reagent blank). In the event that typeable results are observed in connection with an analysis of a negative control, I will notify you immediately.”

If you have any questions regarding this request, please contact me at the following:

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Phone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
E-mail: \_\_\_\_\_

Sincerely,

CODIS Custodian/Supervisor

## ENTERING PROFILES IN LINKAGE

*For DNA profiles typed in Cofiler and Profiler Plus:*

1. Open the LINKAGE database
2. Hit "F9" to enter edit mode
3. While at the top of the database, hit "insert" to get a blank line
4. In the appropriate fields, type in the
  - a. case number – either FB case number or NYPD project case number
  - b. V# - "1" unless part of a pattern; otherwise "2" for the second victim etc. Use "S" for a matching suspect, "1" for a non-matching suspect.
  - c. DNA alleles (no commas, see below)
  - d. pattern designation, if applicable
  - e. E for evidence, S for suspect's exemplar, P for suspect's pseudo-exemplar
  - f. victim name – first and last names if a person, or name of business if not
  - g. suspect name, if known
  - h. date of incident – from 61 form, lab request, or the date the rape kit was collected
  - i. precinct – number if known, otherwise "M", "K", "Bx", "Q", "R" based on the storage number for NYPD projects
  - j. if an evidence profile matches a suspect, enter "True" here
  - k. the date is automatically entered
  - l. leave the LDIS field blank
5. Using the Tab or arrows, leave the record – this causes your newly-entered DNA profile to be added to LINKAGE; if desired, hit "F9" again to lock the database

*For DNA profiles typed in Identifiler:*

1. Open the form **LINKAGE ID data entry** either by double-clicking on it (found in the same directory as LINKAGE) or by using File/Open/Form within Paradox and navigating to that directory.
2. Hit "F9" to enter edit mode
3. While at the top of the form, hit "insert" to get a new blank form
4. In the appropriate fields, type in the
  - a. case number – either FB case number or NYPD project case number
  - b. V# - 1 unless part of a pattern; otherwise "2" for the second victim etc. Use "S" for a matching suspect, "1" for a non-matching suspect.
  - c. DNA alleles (no commas, see below)
  - d. E for evidence, S for suspect's exemplar, P for suspect's pseudo-exemplar
  - e. pattern designation, if applicable
  - f. victim name – first and last names if a person, or name of business if not
  - g. suspect name, if known
  - h. date of incident – from 61 form, lab request, or the date the rape kit was collected
  - i. precinct – number if known, otherwise "M", "K", "Bx", "Q", "R" based on the storage number for NYPD projects



- j. if an evidence profile matches a suspect, enter “True” here
  - k. the date is automatically entered
  - l. leave the LDIS field blank
5. Using Insert, create a new blank form – this causes your newly-entered DNA profile to be added to LINKAGE; if desired, hit “F9” again to lock the database

***It is very important that you enter the alleles properly!!***

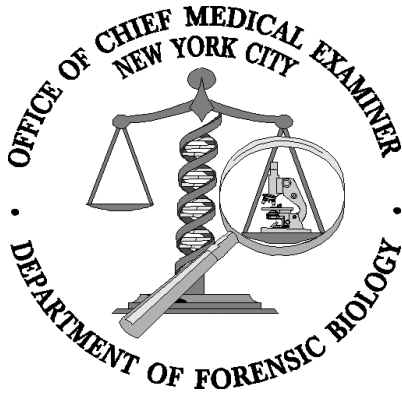
For autosomal loci, enter one allele for homozygotes; allele 1 space allele 2 for heterozygotes, no commas, no extra spaces. Amelogenin is entered either as XX or XY.

For “new” alleles, use “12.x” etc. for off-ladder alleles, use “<6” and “>30” etc. for alleles larger or smaller than the allelic ladder.

If you do not have both alleles (i.e., in a deduced partial profile) leave blank. Do not type in “\*\*”, “inc”, “NEG”, “+”, or a single allele if you think the true profile may be heterozygous.

1. Once you finish entering the DNA profile, it will automatically sort itself into the proper location. If the profile doesn’t sort, and the words “key violation” appear on the top or the bottom of the screen, the profile is already entered. Move your cursor over to the V# field and type in “x” instead.
2. Use “Ctrl-Z” to zoom to the case number you just entered and double-check the accuracy of your entry. If necessary, change the “x” in the V# field to the next victim number. Use “Ctrl-A” to move to the next instance of that number, if necessary.
3. On the LDIS/LINKAGE Case Evaluation Form, date and initial that the DNA profile was entered into LINKAGE.

The sorting is based on the Cofiler loci. If the DNA profile is incomplete, the sorting will not necessarily find matches, if present. If you wish, you can use a query to attempt to locate any potential matches. For DNA profiles that are also destined for LDIS, matches missed in LINKAGE will be found during the LDIS autosearch performed by the CODIS group prior to each upload.



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421 East 26<sup>th</sup> Street, New York, NY 10016

Tel: 212.323.1200 · Fax: 212.323.1590 · E-mail: DNALab@ocme.nyc.gov

SDIS Custodian  
c/o New York State Police  
Forensic Investigation Center  
1220 Washington Avenue, Building 30  
Albany, New York 12226-3000

(date)

Dear SDIS Custodian,

A DNA profile that has been previously uploaded to the SDIS should be expunged. Due to court order the expungement process must be completed by (date), which is before the next upload from our laboratory. Please delete the DNA profile and execute a data upload to NDIS at your earliest convenience. We have deleted the profile from LDIS.

The DNA profile to be expunged is Specimen ID No: \_\_\_\_\_

Point of Contact:

Name: \_\_\_\_\_  
Agency: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
Lab No: \_\_\_\_\_

Respectfully,

(Signature)

(Title)

Document Control Coordinator - 3/23/2010



# COMBINED DNA INDEX SYSTEM (CODIS) MANUAL

VERSION 3.0

Effective date: January 2, 2009

REVIEWED/APPROVED BY			
Title	Print Name	Signature	Date
Assistant Director/ CODIS Manager	Marie Samples	<i>Marie Samples</i>	12-30-08