

FORENSIC BIOLOGY CODIS MANUAL

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4.0 PROFILE MANAGEMENT

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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 (specimen ID) with a maximum of 24 characters. These characters can only be uppercase letters, numbers, dashes (-), periods, or grant-tracking special characters (# or \$) as indicated below.
- 4.1.2 The standardized format for entering specimen information into CODIS is as follows:

Last 3 Digits of Voucher

Case Number	=	or	PM[item number]	=	Sample Description	=	OT/Grant	=	Case Type
Ex. 21-12345					(2-6 Letters)		Code		Identifier
(no "FB")									
			or						
			OOJ						

- 4.1.2.1 Case Number: The first eight to ten characters will encompass the Forensic Biology laboratory number (last two digits of the year, followed by a dash, followed by a four-digit number if the case is from 2006 or earlier, or a five-digit number if the case is from 2007 or later) followed by a dash. If the specimen is from a contract laboratory, the year will be preceded by a laboratory abbreviation, i.e., Bode Technologies (BT or BTB), Cellmark Diagnostics (CD) or Genescreen (GS).
- 4.1.2.2 Vouchered items: add the last three digits of the voucher followed by a dash.
- 4.1.2.3 Postmortem items (no voucher number): add "PM" followed by the item number followed by a dash, in place of the voucher number.

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- 4.1.2.4 Out-of-jurisdiction cases (no voucher number): add “OOJ” followed by a dash, in place of the voucher number.
- 4.1.2.5 Sample Description: The final set of characters will be reserved for sample type and identification. Sample description may be shortened to comply with the 24-character limit.
- 4.1.2.5.1 For non-Sexual Assault Kit evidence: Add 2 to 6 letters and/or numbers that describe the item, the item number, and the stain designation followed by a dash.
- 4.1.2.5.2 If there is only one item of that type in the case (e.g. one pair of jeans, one beer bottle, or one baseball cap) the specimen ID does not need the item or stain number; however when a case has multiple samples or CODIS profiles, attempt to create specimen ID’s that are easily distinguishable, e.g. REDCAP and BLUCAP rather than CAP1A and CAP1B.
- 4.1.2.6 For Sexual Assault Kit (SAK) items and additional SAK evidence: the abbreviated descriptions below should be used. For kit samples processed with Zygem, use the swab designation (e.g. VS) but no fraction.

SAK Item	Abbreviated Description
Dried secretion	DS
Oral swab	OS
Vaginal swab	VS
Vulvar swab	VU
Cervical swab	CS
Anal swab	AS
Vaginal/Cervical	VC
Perianal swab	PA
Perianal/anal swab (no indication if one or both)	PAA
Penile swab	PS
Underwear	UW

Differential Fraction	Abbreviated Description
F1 (formerly called “Epithelial Cell Fraction”)	F1 (formerly EC)
F2 (formerly called “Sperm Cell Fraction”)	F2 (formerly SF)
Substrate Remains Fraction	SR

- 4.1.2.7 Missing and Unidentified Persons Cases: the specimen ID will follow the same general format as other casework:
- For the sample description: To differentiate between sample types, use **R** for Relatives of Missing Persons, **M** for Missing Persons (or Deduced Missing Persons) samples, and **U** for Unidentified Human Remains.
 - \$** - for cases worked with grant-funded supplies

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4.1.2.7.1 **Relatives of Missing Persons:** the abbreviated descriptions below will be used for samples from relatives. If more than one sibling, other maternal relative or other paternal relative is submitted, designate each with a number after the abbreviated description:

- Mother described as **M**
- Father described as **F**
- Biological Sibling (brother or sister) described as **S**
- Other Maternal Relative described as **OM**
- Other Paternal Relative described as **OP**
- Spouse (other parent of child(ren) in common) described as **SP**

4.1.2.7.2 **Missing Persons:** add 4-5 letters describing the item, item number, and/or cutting followed by a dash. This segment may need to be shortened to help the specimen ID comply with the 24-character upper limit.

4.1.2.7.3 **Unidentified Human Remains:** utilize “PM” followed by a dash in place of voucher

4.1.2.7.4 **Pedigree Trees:** case number followed by a dash; four numerals for month and day created, followed by a dash; and the letters “PT”. For a pedigree tree for case FB14-06802, created January 23, the pedigree tree ID would be 14-06802-0123-PT.

4.1.2.8 **Grant-Funded cases:** add the special character followed by a dash. This segment should be omitted from the specimen ID if neither condition applies. The first instance of grant assistance determines which symbol is used, it cannot be both.

- # - for cases examined, written, or tech reviewed on weekend overtime grant money
- \$ - for cases worked with grant-funded supplies
- + - for cases examined, written, or tech reviewed on Post-Conviction casework

4.1.2.9 **Case type indicator:** the last notation is a pair of letters indicating the case type. Do not add segments after this segment. This allows management or CODIS staff to query by crime type in the database. The two-letter case type indicator should always be the last segment of the specimen ID.

AS assault, attempted homicide, and related cases

BU burglary and related cases

DR drug possession and related cases

HO homicide cases

MP missing and unidentified persons cases

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- RO** robbery, attempted robbery, and related cases
- SA** sexual assault and related cases
- WE** weapons possession and related cases
- AU** auto theft (grand larceny auto), unauthorized use of vehicle, and related cases
- OT** used for any case type not covered above

4.1.2.10 The above specimen identification system should not be deviated from unless it is necessary to distinguish two samples, or under unusual case situations. Even when you are using “MDA” or “MDB” as part of the 6-letter sample description segment, always end the specimen ID with the two-letter case type indicator if the sample is a Forensic Unknown, Forensic Partial, Forensic Mixture, Forensic Targeted, Forensic SDIS Only, SDIS Gun Unknown, SDIS Gun Partial, or SDIS Gun Mixture specimen. For information on what criteria are required for entry into these specimen categories, please see CODIS Manual “[CODIS Terms and Abbreviations](#),” [CODIS Specimen Category Eligibility Table](#), and table below [section 4.4.9](#).

4.1.3 Examples

- Example 1: case no: FB21-00022, voucher N123456, item #1: purple shirt, stain 1B; assault. Specimen ID number will be: *21-00022-456-PS1B-AS*
- Example 2: case no: FB00-1257, postmortem kit item PM 2F, vaginal swab, sperm cell fraction, homicide. Specimen ID number will be: *00-1257-PM2F-VSSF-HO*
- Example 3: case no: FB20-01034, voucher P124589, item #1B: glove, scrapings, burglary, examined on a weekend. Specimen ID number will be: *20-01034-589-GLSCR-#BU*
- Example 4: case no: FB11-05500, voucher 1000099832, item #1, auto theft case, cigar butt, sample amped using primers purchased on grant. Specimen ID number will be: *11-05500-832-CB1-\$-AU*.
- Example 5: Cellmark Diagnostics backlog case CD01-0001, voucher K321123, sexual assault kit underwear stain, sperm cell fraction, sexual assault, Male Donor A. Male Donor B and C also present on underwear stain. Specimen ID number will be: *CD01-0001-123-UWSFA-SA*
- Example 6: case no: FB11-01234, bone, PM1, unidentified human remains. Specimen ID number will be: *11-01234-PM1-U-MP*
- Example 7: case no: FB04-1234, voucher number K123456, brother and sister of Missing Person. Specimen ID numbers will be: *04-1234-456-S1-R-MP* and *04-1234-456-S2-R-MP*

4.1.4 Suspect profiles entered into LDIS will have specimen IDs of the form XXX-21-S00000. Suspects from 2006 and earlier will have specimen IDs of the form XXX-00-S000. Suspects from 2007 through early 2018 have the format XXX-07-S0000. This special format is intended

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to prevent the CODIS team and analysts from placing the suspect in the wrong index where it might be accidentally uploaded.

- 4.1.5 LDIS Only profiles entered into LDIS will have specimen IDs of the form LLL-13-00000. This special format is intended to prevent the CODIS team and analysts from placing an evidence profile that is ineligible for NDIS into an index where it might be accidentally uploaded past SDIS. Extensions such as –MDA or –FDA may be added to the end when there is more than one LDIS Only profile for a case to aid in distinguishing between the two. The specimen category for LDIS Only profiles is “Forensic LDIS Only”.
- 4.1.6 Lab Types profiles entered into LDIS will have specimen IDs of the form 12345. This format is intended to prevent the CODIS team and others from placing these known profiles in the wrong index where they might be accidentally uploaded and preserves the anonymity of the personnel whose profiles these are.

4.2 General Guidelines for Entering STR Profiles into CODIS

- 4.2.1 Procedures for determining STR deconvolution typing results are detailed in the current Forensic Biology STR interpretation manual.
- 4.2.2 All STR profiles, Y STR profiles, and mtDNA sequences 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 CODIS, as well as ensuring that appropriate exemplars and/or elimination samples have been requested at least once.
- 4.2.3 In order for a specimen to be eligible for CODIS, testing of all CODIS core STR loci must be attempted. Any additional technologies (as needed) must also be attempted on appropriate samples.
- 4.2.3.1 Original 13 CODIS core loci – prior to 1/1/2017
- 4.2.3.2 Expanded 20 CODIS core loci – after 1/1/2017
- 4.2.4 Eligibility guidelines for entry and upload
- 4.2.4.1 Refer to the sections below to determine profile eligibility. Profiles must contain enough data to minimize the opportunity for fortuitous, non-matching candidate matches in order to be eligible for LDIS, SDIS and NDIS.
- 4.2.4.2 All partial or mixed evidence profiles, as well as all partial suspect profiles with information at 10 or fewer loci intended for LDIS, must satisfy a statistical threshold for match rarity. This is done by calculating the Moderate Match Estimate using the [COSTaR MME Calculator](#) (Refer to the “MME Instructions” tab within the document for instructions.). This calculation

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generates the number of expected matches a partial or mixed profile will generate if searched against a database of size N, composed of single-source, unrelated specimens

4.2.4.3 Specimens can be a composite of multiple amplifications (same amp kit or different kits) if the amplifications are from the same DNA extract. Unless there is a reasonable expectation of samples originating from a common source (ex. duplicate orifice swabs, known reference samples, bones) allelic data from separate extractions from different locations on a given item should not be combined into a composite database profile. Interpreting Analysts must consult with CODIS Manager if a composite profile is being considered from different extracts not included in the examples above.

4.2.4.4 LDIS: A minimum of 6 fully deconvoluted loci are necessary for search of, or entry into LDIS. All partial or mixed evidence profiles and suspect profiles with data at 10 or fewer loci must have an MME greater than or equal to the current LDIS database size rounded up to the nearest ten thousand (see [COSTaR MME Calculator](#)). If the MME value is less than the LDIS MME threshold the profile is not eligible for LDIS and should only be searched against Lab Types .

4.2.4.4.1 NOTE: Suspect profiles submitted in the “Suspect, Known” specimen category can only be entered into LDIS. Loci are either “INC” or fully deconvoluted in order to be entered into CODIS.

4.2.4.5 SDIS: To be eligible for upload into SDIS, in addition to fulfilling all LDIS requirements, the profile must have 4 original CODIS core loci fully deconvoluted and data (i.e. fully deconvoluted, mixed, or partial loci) at a minimum of 6 of the original 13 CODIS core loci. All partial or mixed evidence profiles must have an MME greater than or equal to the current SDIS database size rounded up to the next hundred thousand in order to be eligible for SDIS.

4.2.4.5.1 For SDIS Gun Unknown, SDIS Gun Mixture, and SDIS Gun Partial, the profile must have 4 original CODIS core loci fully deconvoluted and data (i.e. fully deconvoluted, mixed, or partial loci) at a minimum of 8 of the original 13 CODIS core loci. All partial or mixed evidence profiles must have an MME greater than or equal to 1×10^6 .

4.2.4.6 NDIS: To be eligible for upload into NDIS (including Forensic Targeted), in addition to fulfilling all SDIS requirements, the profile must have data (i.e. fully deduced, mixed, or partial loci) at a minimum of 8 of the original 13 CODIS core loci. All profiles intended for the Forensic Mixture and Forensic Partial indexes must have an MME greater than or equal to 10,000,000 (1×10^7) to be eligible for NDIS. All profiles intended for the Forensic Targeted indexes must have an MRE greater than or equal to 10,000,000 (1×10^7) to be eligible for NDIS.

4.2.4.7 For Missing Persons and Unidentified Human Remains cases, in order for upload to CODIS, Amelogenin is required along with the following minimum core loci:

- Unidentified Human Remains: 7 for SDIS, 7 for NDIS
- Missing Persons and Deduced Missing Persons: 7 for SDIS, 7 for NDIS
- Relatives of Missing Persons: 13 for SDIS, 13 for NDIS

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- 4.2.5 The DNA result for each locus will be entered in the LIMS DB Profile as follows: p, q for heterozygotes (in ascending order) and p, p for homozygotes (for example: TH01 6, 7 or 6, 6).
- 4.2.6 Off ladder alleles above or below the allelic ladder are entered as < (lowest allele at that locus) or > (highest allele), respectively. The official standardized NDIS allelic ladder is as listed. The original 13 CODIS core loci are marked with an asterisk. The expanded 20 CODIS core loci are marked with 2 asterisks. The remainder of the listed loci are accepted but not required.

Amelogenin X, Y

* **D3S1358** <12, 12-19, >19
 ****D1S1656** <9, 9-20.3, >20.3
 ****D2S441** <9, 9-16, >16
 ****D10S1248** <8, 8-18, >18
 * **D13S317** <8, 8-15, >15
Penta E <6 6-24, >24
 * **D16S539** <5, 5-15, >15
 * **D18S51** <9, 9-26, >26
 ****D2S1338** <15, 15-28, >28
 * **CSF1PO** <6, 6-15, >15
Penta D <2.2, 2.2-17, >17
 * **TH01** <5, 5-10, >10
 * **vWA** <11, 11-21, >21
 * **D21S11** <24.2, 24.2-38, >38
 * **D7S820** <6, 6-14, >14
 * **D5S818** <7, 7-16, >16
 * **TPOX** <6, 6-13, >13
 * **D8S1179** <8, 8-18, >18
 ****D12S391** <14, 14-27, >27
 ****D19S433** <9, 9-17.2, >17.2
 * **FGA** <18, 18-30, >30
 ****D22S1045** <8, 8-19, >19
D6S1043 <7, 7-25, >25**SE33** <4.2, 4.2-37, >37

- 4.2.7 In certain circumstances, a single obligate allele may be entered as p+. For DNA profiles entered into Forensic Partial or SDIS Gun Partial, a locus with a single obligate may not have any other alleles entered with it, for that locus (e.g. 15+, 16).. If an obligate allele is used, the profile can only be placed in the Forensic Partial, Forensic Mixture, Forensic SDIS Only, SDIS Gun Partial, SDIS Gun Mixture, or LDIS Only index.
- 4.2.7.1 This convention may not be used for any known/exemplar samples entered into the CODIS database, whether they are LDIS categories such as Suspect, Known or LabTypes, or samples uploaded to SDIS/NDIS, including Missing Persons, Relatives of Missing Persons, and Unidentified Human Remains samples. Forensic Unknown specimens should also not use this convention.

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- 4.2.8 No more than four alleles per locus may be used for DNA profiles in the following specimen categories: Forensic Mixture, Forensic Targeted, SDIS Gun Mixture, Forensic SDIS Only, and Forensic LDIS Only categories.
- 4.2.9 No more than two alleles per locus (with the exception of one tri-allelic pattern to allow for genuine trisomy) may be used for DNA profiles in the following specimen categories: Forensic Unknown, Forensic Partial, SDIS Gun Unknown, SDIS Gun Partial, Missing Persons/Deduced Missing Persons, Relatives of Missing Persons, Suspect, Known, Lab Types, and Unidentified Human Remains.
- 4.2.10 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 [NDIS Procedures Manual](#).
- 4.2.11 Only enter the complete genotype for Amelogenin. If the interpretation at Amelogenin is incomplete and a “DNA Donor” is being reported (i.e. not Male or Female Donor A), it is inconclusive (INC).
- 4.2.12 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.
- 4.2.13 Currently, profiles developed using Low Copy Number amplification techniques are not eligible for entry into NDIS. They were, however, uploaded to SDIS for searching, via the Low Copy Number specimen category of the Forensic SDIS Only Index. Samples in this SDIS Index are unmarked for any further upload (i.e. to NDIS).
- 4.2.14 When entering profiles from single source samples, these profiles can be entered into Forensic Unknown, Forensic Partial, Forensic Targeted, Forensic SDIS Only, SDIS Gun Unknown, SDIS Gun Partial, or Forensic LDIS only specimen categories; however, considerations must be made regarding the rules/eligibility for each respective category. [See CODIS Terms and Abbreviations](#), [CODIS Specimen Category Eligibility Table](#), and table below ([section 4.4.9](#)).

4.3 Guidelines for Entering STR Profiles Derived from Mixed Samples into CODIS

- 4.3.1 A DNA mixture refers to forensic samples or profiles that contain DNA contributed from more than one source.
- 4.3.2 As many loci and alleles as possible should be included in the profile submitted to the database, while abiding by the specimen category requirements (e.g. maximum 4 alleles per locus).
- 4.3.3 When a locus can only be partially deconvoluted, use of the obligate allele designator, a “+”, aids in moderate stringency searches by preventing some of the spurious moderate matches possible at mixed loci. Use of required alleles narrows the possible matches that are returned in a search. For example, a 13, 14, 15 would match 13,13; 14,14; 15,15; 13,14; 13,15; and

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14,15. If the mixture were entered as 13,14+,15, then a 14 would be required to appear in the other profile: 14,14; 13,14; or 14,15 would be returned. See table below [section 4.9.10](#).

NOTE: SPECIAL NOTE REGARDING OBLIGATES: a 13,14+,15 will not match a 13+,15 at moderate stringency because the 14 does not appear in the other profile; even though the 13 and 15 are in both profiles. If one non-matching locus is allowed in the search configuration, the above situation would not prevent a match from being returned, however two such instances in the same pair of samples would prevent the match from being detected.

- 4.3.4 A locus may be designated inconclusive (“INC”) at the discretion of the interpreting analyst and the technical reviewer(s) if an ambiguity exists at that locus. This locus, however, can and should still be used in the confirmation process once a candidate match is made. See the [STR Interpretation Manual for PowerPlex Fusion](#) (3130xL) and the [Interpretation of PowerPlex® Fusion data run on 3500xL](#) for further guidance.
- 4.3.5 When entering profiles from mixed samples, these profiles can be entered into Forensic Unknown, Forensic Mixture, Forensic Partial, Forensic Targeted, Forensic SDIS Only, SDIS Gun Unknown, SDIS Gun Partial, SDIS Gun Mixture or Forensic LDIS Only specimen categories; however, considerations must be made regarding the rules/eligibility for each respective category. (See [CODIS Terms and Abbreviations](#), [CODIS Specimen Category Eligibility Table](#), and table below [section 4.4.9](#)).

4.4 Eligibility Guidelines For Entering STR Profiles into LDIS

- 4.4.1 CODIS eligible profiles will be entered into LDIS by CODIS software-trained staff only. The profiles entered and/or imported into LDIS must fall into one of the following CODIS categories: Forensic Unknown; Forensic Mixture; Forensic Partial; Forensic Targeted; Forensic SDIS Only; SDIS Gun Unknown; SDIS Gun Partial; SDIS Gun Mixture; Low Copy Number; Suspect, Known; Missing Persons; Relatives of Missing Persons; Unidentified Human (Remains). For procedural guidelines on how to enter a profile into LDIS, see the relevant module in the online FBI LMS.
- 4.4.2 Profiles unambiguously matching a victim or elimination sample (for example, a family member or a consensual sex partner) **must 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.
- 4.4.3 Evidence profiles that are clearly unrelated to a case or crime will not be entered into CODIS. For example, a sperm cell fraction 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 CODIS Program Manager and CODIS Administrator. The determination can be aided using the *CODIS Guide to Determining What is Allowable for Entry into the Forensic Index at NDIS (on network)*.

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- 4.4.4 All database profiles must meet the requirements for being a DNA Donor. See ([Interpretation of PowerPlex Fusion data on 3500xl](#)).
- 4.4.5 If the database profile is from a gun taken off a listed individual and Criminal Possession of a Weapon is a documented charge, it is only eligible for SDIS Gun Unknown, SDIS Gun Partial, SDIS Gun Mixture, or LDIS Only.
- 4.4.6 Local suspect profiles reside in LDIS. They are not eligible for upload to higher levels of CODIS, nor are they eligible to be shared with any other laboratories through, or outside of CODIS. They will be entered into LDIS with the following exceptions:
- 4.4.6.1 A properly executed court order concerning a specific sample dictates otherwise. See the [Attorney/Customer Requests](#) manual.
- 4.4.6.2 The exemplar was submitted subsequent to a partial match notification and does not match the case for which it was submitted.
- 4.4.7 Suspect files may be created from decedents of OCME cases who are also documented suspects in one or more criminal cases (with case contacts from NYPD or DAO). The resulting profiles will be entered into the Suspect, Known category under the usual nomenclature and search conditions.
- 4.4.8 Non-victim DNA profiles derived from evidence that are not eligible for SDIS/NDIS entry will be entered into the LDIS Only specimen category (e.g., a profile obtained from the clothing of a suspect).
- 4.4.9 See below table and [CODIS Specimen Category Requirements Table](#) for more information.

Step	Question	Yes?	No?
1	Do you have 6 or more fully deconvoluted loci?	Go to step 2.	Profile is not eligible for CODIS – suitable for comparison only.
2	Do you have a CPW case (or a case with CPW listed as a charge) and a fully operable gun?	Go to step 6.	Go to step 3.
3	Do you have 4 or more CODIS core locations that are fully deconvoluted?	Go to step 4.	Profile is eligible for LDIS only, pending MME calculation.
4	Do you have data at 6 or more CODIS core loci?	Go to step 5	Profile is eligible for LDIS only, pending MME calculation.

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5	Do you have data at 8 or more CODIS core loci?	Profile is NDIS eligible, pending MME calculation. Consider MRE calculation if MME insufficient.	Profile is eligible for SDIS only, pending MME calculation.
6	Do you have 4 or more CODIS core locations that are fully deconvoluted?	Go to step 7.	Profile is not eligible for SDIS Gun Indexes. Profile is eligible for LDIS only, pending MME calculation.
7	Do you have data at 8 or more CODIS core loci?	Profile may be eligible for SDIS Gun Indexes (SDIS Gun Unknown, SDIS Gun Mixture, SDIS Gun Partial), pending MME calculation.	Profile is not eligible for SDIS Gun Indexes. Profile is eligible for LDIS only, pending MME calculation.

4.4.10 Y STR loci are accepted in CODIS but are not routinely entered into LDIS.

4.4.10.1 Y STR data is occasionally entered for missing/unidentified persons cases, for casework samples involved in partial match resolution, and for cases involved in familial search requests.

4.4.10.2 The Y STR standardized NDIS allelic ladder with loci is:

DYS19 <10, 10-19, >19
DYS385 <7, 7-25, >25
DYS389 I <10, 10-15, >15
DYS389 II <24, 24-34, >34
DYS390 <18, 18-27, >27
DYS391 <8, 8-13, >13
DYS392 <7, 7-18, >18
DYS393 <8, 8-16, >16
DYS438 <8, 8-12, >12
DYS439 <8, 8-15, >15
DYS448 <17, 17-24, >24
DYS456 <13, 13-18, >18
DYS458 <14, 14-20, >20
DYS635 <20, 20-26, >26
YGATAH4 <8, 8-13, >13

4.4.10.3 The rapidly mutating Y STRs (DYS449, DYS518, DYS570, DYS576, DYS627, and DYF387S1) will not be entered into CODIS. These loci are known to have high mutation rates which could impact comparisons.

4.4.11 If a discrepancy is discovered once the profile has already been entered, a modification or deletion/re-import may be needed (case by case determination). Interpretation issues should be discussed with the appropriate Assistant Director and/or CODIS Administrator.

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- 4.4.12 Once an interpreting analyst creates a CODIS eligible profile, they will compare that DNA profile(s) to those in [LINKAGE](#) and [LDIS](#) and document the results as an event on the DB Profile page in LIMS. Indexes to be searched include Forensic Unknown, Forensic Mixture, Forensic Partial, Forensic SDIS Only, Forensic Targeted, SDIS Gun Unknown, SDIS Gun Partial, SDIS Gun Mixture, Forensic LDIS Only, Pattern, Unidentified Human Remains, Suspect, Known, and Lab Types.

4.5 Modifying or Deleting an STR Profile from CODIS

- 4.5.1 Modification of data already entered in CODIS may result from:

- Completion of additional testing
- Discovery of an error regarding the profile or eligibility of the profile
- Discovery of an administrative error, such as an error in the specimen ID Once it has been determined that a profile must be modified in CODIS, a Profile Modification Form should be filled out and submitted to the CODIS staff for processing (either physical or electronic).

- 4.5.1.1 Please refer to the [LIMS Database Profile Modification](#) manual for instructions on how to submit the profile modification.

- 4.5.1.1.1 Profile modifications for paper-only files should be submitted on the traditional paper form (see [CODIS Profile Modification Form](#)). This includes all Backlog and Biotracks cases, Forensic Biology cases FB12-03799 and earlier, and Forensic Biology suspect cases FB12-S0949 and earlier. This applies only to cases with NO TESTING DONE WITHIN LIMS.

- 4.5.1.1.2 Profile modifications for LIMS-era files (FB12-03800 and later, and suspect files FBS12-00950 and later) must be submitted via the DB profile page in LIMS. The modified dataset should include data for all previous loci as well as those being updated.

NOTE: **NOTE OF CAUTION IF YOU ARE MAKING AN EXISTING LOCUS “INC”:**
Sending a locus as “INC” (blank) in a new dataset from LIMS, where there was one or more alleles present in the previous dataset(s), will NOT result in updating that locus to “INC”. **The technical reviewer who submits the modification MUST notify CODIS staff by email to ensure that the locus/loci in question are modified manually in CODIS.** The email does NOT replace the need for the modification form.

- 4.5.1.2 Any profile modification will be documented in the appropriate profile modification log by a CODIS staff or designee. Documentation should include the profile modification form and specimen detail reports.

- 4.5.2 Removal (expungement) of data in CODIS may result from:

- A profile entered is later determined to be from a victim, witness, consensual partner, family member, etc.

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- Documentation is provided for legal expungement.
- A determination was made 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.
- The identity of a missing or unidentified person has been confirmed.

- 4.5.2.1 Once it has been determined that a profile must be deleted from CODIS, a Profile Removal/Expungement Form must be filled out and submitted to the CODIS staff for processing.
- 4.5.2.2 Please refer to the [LIMS Database Profile Expungement](#) manual for instructions on how to submit the profile expungement.
- 4.5.2.3 Profile expungements for paper-only files should be submitted on the traditional paper form (see [Profile Removal Expungement Form](#)). This includes all Backlog and Biotracks cases, Forensic Biology cases FB12-03799 and earlier, and Forensic Biology suspect cases FB12-S0949 and earlier. This applies only to cases with NO TESTING DONE WITHIN LIMS.
- 4.5.2.4 Profile expungements for LIMS-era files (FB12-03800 and later, and suspect files FBS12-00950 and later) must be submitted via the DB profile page in LIMS.
- 4.5.2.5 Any profile expungement will be documented in the appropriate profile expungement log by a CODIS staff or designee. Documentation should include the profile expungement form and specimen delete report. Routine Searches of LINKAGE and LDIS

4.6 CODIS Group email notifications for evidence specimens modified to change CODIS eligibility (CODIS Group Only):

- 4.6.1 If a CODIS specimen's eligibility in CODIS changes due to additional information subsequently obtained, a member of the CODIS group will send an email to FIDLU and District Attorney Office to communicate the modification. Email will include :

FB# :

CRT# -

Complaint #?

4.6.1.1 If Profile elevated in CODIS

- 4.6.1.1.1 The DNA profile below was submitted to the [choose all applicable - OCME local DNA databank/Local DNA Index System (LDIS)/State DNA Index System (SDIS)/National DNA Index System (NDIS)]. The DNA profile below is now eligible for [choose all applicable - Local DNA Index System (LDIS)/State DNA Index System (SDIS)/National DNA Index System (NDIS)].

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4.6.1.2 If Profile downgraded in CODIS

4.6.1.2.1 The DNA profile below was submitted to the [choose all applicable - OCME local DNA databank/Local DNA Index System (LDIS)/State DNA Index System (SDIS)/National DNA Index System (NDIS)]. The DNA profile below is now eligible only for [choose all applicable - Local DNA Index System (LDIS)/State DNA Index System (SDIS)/National DNA Index System (NDIS)].

4.6.1.3 If Profile removed from CODIS (same as current CODIS expungement language)

4.6.1.4 The DNA profile below was submitted to the [choose all applicable - OCME local DNA databank/Local DNA Index System (LDIS)/State DNA Index System (SDIS)/National DNA Index System (NDIS)]. The DNA profile below is not eligible for the databanks because it [matched a victim/complainant/witness/consensual partner (choose one) OR no longer meets an eligibility requirement]. Therefore, it was removed from the [choose all applicable - OCME local DNA databank/Local DNA Index System (LDIS)/State DNA Index System (SDIS)/National DNA Index System (NDIS)]. Any further comparison to this DNA profile must be a direct comparison.

4.7 LINKAGE SEARCHES

- 4.7.1.1 Log into the Forensic Biology Data Management System and click on “Linkage” on the left side menu.
- 4.7.1.2 Linkage searches your target entry exactly - it does not search at moderate or low stringency. Do not include obligates or location with 3 or more alleles.
- 4.7.1.3 Only enter the alleles from your interpretation at the CODIS core loci into each cell. Do not use a comma. Only place a single space between heterozygous alleles. For homozygotes, enter the allele once.
- 4.7.1.4 Click search.

4.8 IDENTITY SEARCHES IN CODIS

- 4.8.1.1 Open the CODIS Work Station. Click on “Searcher” on the bottom left-hand side.
- 4.8.2 **Ensure your search settings are as follows** (click the yellow wrench icon while in the Searcher Module to get to configuration menu):
 - General- check box for the following:

Return all candidates

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Use metadata sex as match filter

- STR: check box

Minimum # of loci required to report a match: 6

Include Candidate Specimens that Match on All but __ Loci: 1

Use as Match Filter: check box

- mtDNA: don't check box
- Y-STR: don't check box
- Indexes to Search in:

Forensic

Forensic LDIS Only

Forensic Mixture

Forensic Partial

Forensic Targeted

Forensic SDIS Only

Lab Types

Pattern

SDIS Gun Unknown

SDIS Gun Mixture

SDIS Gun Partial

Subject

Unidentified Human (Remains)

Candidate View: [None]

- Click OK to exit setup mode.

Controlled versions of Department of Forensic Biology Manuals only exist in the Forensic Biology Qualtrax software. All printed versions are non-controlled copies.

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- Set Locus Display Order to “Master”
- Ensure the boxes for all Fusion loci (original CODIS core 13 plus the additional 9) are checked (they should automatically check as you enter alleles). Amelogenin, SE33, and DYS391 remain unchecked.
- Ensure Stringency for all checked loci is set to “M” (moderate). If you need to change it from H or L, right-click.
- Do “Save-as” for this Searcher configuration and name appropriately (e.g. “Local Forensic Search”).

4.8.3 Enter the alleles from your profile. Note: all three alleles from a tri-allelic locus may be entered.

4.8.4 Searcher settings for **Lab Types Only** searches (click into the Searcher module, and then click yellow wrench icon to get to configuration menu):

4.8.4.1 This search is used when the sample only needs to be searched against Lab Types specimens (e.g. sample is under a protective order, QA/QC purposes)

- Settings: open the regular search you have saved in your profile
- Click off: all indexes EXCEPT Lab Types (ctrl + click to deselect an index)
- Click: OK
- Save and name appropriately (e.g. “LabTypes Only Search”)

NOTE: add a note in the case communication log that the profile was checked against LabTypes

4.8.5 LDIS Auto Searches 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 and to track local DNA hits using the CODIS system. LDIS Auto Searches will be performed by the CODIS staff only.

4.8.5.1 All LDIS Auto Searches will be conducted at moderate or high stringency using a minimum of six core loci. The default setting is moderate.

4.8.5.2 Samples with 10 or more loci will also be searched, allowing one locus to have either low-stringency or non-matching results (“one-mismatch search”).

4.8.5.3 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 expeditiously. The CODIS group may return such matches to the analyst and technical reviewers who submitted the specimen and delegate the match notifications to them.

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4.8.6 High/Moderate Match Stringency Examples

DB Profile Entry (target specimen)	Will Match (candidate specimen)	
	at High Stringency	at Moderate Stringency
9,9	9,9	9,Z
8,9	8,9	8,8 ; 9,9
7,8,9+	n/a	7,9 ; 8,9 ; 9,9
7,9+	7,9	9,9
9+	9,9	9,Z
7,8,9,10	n/a	7,7 ; 8,8 ; 9,9 ; 10,10 ; 7,8 ; 7,9 ; 7,10 ; 8,9 ; 8,10 ; 9,10
INC	anything	anything

- 4.8.6.1 **NOTE:** When searching your target specimen at high stringency, candidate specimens will be returned only where all loci match at high stringency. When searching at moderate stringency, candidate specimens will be returned only where all loci match at either high or moderate stringency. The above table shows the combination of alleles, given your target specimen, that will return a high or moderate stringency loci match. For example, if searching at moderate stringency (the setting for searches done in Searcher), all above combinations (high and moderate) could result, with the respective match stringency denoted as “[H]” or “[M]” at each loci.

4.9 Uploading Profiles to SDIS/NDIS and Search Policies

- 4.9.1 All appropriate LDIS profiles will be uploaded to SDIS by the CODIS staff. Currently, New York State local DNA laboratories upload to SDIS five days a week, with the SDIS search performed shortly thereafter
- 4.9.2 All appropriate LDIS profiles submitted to SDIS are uploaded to NDIS by the NY State Database Laboratory. See [NYS CODIS Procedures Section 3.0](#) for upload schedule.
- 4.9.3 LDIS profiles for upload to SDIS/NDIS will **NOT** include profiles from the Suspect, Known or Lab Types specimen categories. Only forensic samples and missing persons/unidentified persons samples may be uploaded to SDIS/NDIS.

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- 4.9.4 All putative perpetrator profiles in a Forensic Biology DNA pattern will be uploaded to SDIS. Previously, additional profiles developed in other cases in a pattern were placed into the Other (pattern) Index in LDIS and were not uploaded. This is no longer the case. Profiles previously placed into this index remain in this index.

4.10 Other Searches

4.10.1 Emergency Search and Upload Requests (EUSR)

- 4.10.1.1 The Emergency Search and Upload Requests (EUSR) functionality has replaced emergency manual keyboard search requests of SDIS and NDIS.

- 4.10.1.2 EUSR functionality allows NDIS participating laboratories to enroll/upload and immediately search a specific DNA specimen at SDIS and NDIS, without sending an incremental upload. This is not a replacement for incremental uploads.

- 4.10.1.3 EUSR should only be used for cases where timing is critical to the investigation, or high priority cases (e.g., public safety threat). The forensic specimen must be eligible for SDIS/NDIS pursuant to policies and procedures governing specimen eligibility (i.e., as if the specimen were regularly being uploaded during an incremental upload).

- 4.10.1.3.1 The following specimen categories are eligible for EUSR: Forensic Unknown, Forensic Partial, Forensic Mixture, Forensic Targeted, SDIS Gun Unknown, SDIS Gun Mixture, SDIS Gun Partial, and Unidentified Human Remains.

- 4.10.1.3.2 If EUSR is not available, a keyboard search request may still be submitted to quickly search a profile at SDIS. Profiles must meet CODIS eligibility requirements. Requests are submitted to the SDIS Administrator using a [Criminal Keyboard Search Request Form](#).

4.10.1.4 FOR CASEWORK ANALYSTS

- 4.10.1.4.1 If you have a specimen that you believe to be EUSR eligible, confer with your supervisor, manager, and contact the CODIS group.

- 4.10.1.4.2 A local keyboard search of LDIS must be performed before a specimen is considered for EUSR eligibility, to ensure there are no matches to known specimens at the local level.

- 4.10.1.4.3 If the specimen ID contains the following characters an error message will be generated:

4.10.1.4.3.1 #, <, \$, +, %, >, !, `, &, *, ' , {, ?, “, =, }, /, :, \, @, and blank spaces

4.10.1.4.3.2 If a specimen ID has already been generated for the specimen with one of these special characters, please contact the CODIS group.

4.10.1.5 FOR CODIS GROUP

- 4.10.1.5.1 Before uploading an EUSR specimen, the State CODIS administrator and DCJS should be notified. Communication should continue with both agencies throughout the process.

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- 4.10.1.5.2 Only one forensic specimen can be sent in an EUSR; if there are multiple specimens to be sent, they must be sent one at a time.
- 4.10.1.5.3 The specimen enrolled in EUSR will be the Target Specimen, and a full auto search will occur at SDIS and NDIS, based upon the original 13 CODIS core loci, and subject to the specimen category eligibility (i.e., forensic SDIS only specimen will only be searched at the State level). If an auto search is currently running, the specimen will be placed in a queue to be searched next. The specimen will also be incorporated into the daily/weekly regular incremental auto search schedule – there is no need to “re-upload” the specimen following enrollment in EUSR.
- 4.10.1.5.3.1 The EUSR evidence specimen will be searched against Forensic Unknown, Convicted Offender, Arrestee, Detainee, and Legal specimen categories. Forensic Mixture and Forensic Partial categories will be searched in the next regularly scheduled auto search in order to prevent multiple, unintended reciprocal auto searches (e.g., all Forensic Mixture specimens searching against the enrolled specimen).
- 4.10.1.5.3.2 The EUSR unidentified human remains specimen will be searched against Convicted Offender, Arrestee, Detainee, Legal, Missing Person, and UHR categories.
- 4.10.1.5.4 To enroll a specimen in EUSR, select the specimen, right click, and select “Submit Emergency Upload and Search Request.”
- 4.10.1.5.5 Two EUSR Reconciliation Reports will be generated in Message Center – one from SDIS and one from NDIS, if applicable.
- 4.10.1.5.6 If the specimen failed to be enrolled, a failure message will display in Message Center, and the reconciliation report will display the reason for rejection.
- 4.10.1.5.7 Any potential candidate matches that are returned will display via Match Messages in the Message Center. Matches should be evaluated and processed based on internal policies and procedures, but with an expedited time frame based on the immediacy/urgency of the case.
- 4.10.2 Laboratory to Laboratory Manual Keyboard Search Requests
- 4.10.2.1 NDIS participating laboratories may request a keyboard search of an NDIS eligible specimen from other LDIS laboratories. The request should be submitted to the SDIS laboratory and they may forward those requests to the LDIS laboratories.
- 4.10.2.2 These requests are fulfilled by completing a Laboratory to Laboratory DNA Search Request Form (found on the CODIS website). This form contains the profile, relevant case information, whether the profile is partial, the search stringency for each locus, and the reason for the search request. The form is submitted to the relevant State CODIS Administrator.

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- 4.10.2.3 Search requests from external laboratories of our LDIS are directed to the Local CODIS administrator, CODIS Manager, or laboratory director and are completed at their discretion. Search results are communicated directly with the requesting laboratory.
- 4.10.2.4 A manual keyboard search may only be requested once the profile is uploaded to NDIS.
- 4.10.2.5 Profiles that are requested to be searched must meet eligibility for CODIS entry, including having data at 7 original core loci and an MME threshold that meets 1 in 10 million. If a profile contains less than 6 original CODIS core loci, there should be justification in writing.
- 4.10.2.6 All requests from external laboratories will be documented and maintained, either in a binder or digitally on the network.
- 4.10.2.7 Requests from other labs to compare their forensic specimen to suspect specimens will not be approved and are not allowed. Only DNA profiles developed by the Department of Forensic Biology may be compared to suspects in LDIS. Requests from other labs should only be searched against Forensic LDIS specimens.
- 4.10.2.8 Keyboard search requests are only allowed for DNA profiles derived from evidence - DNA profiles from known individuals are not routinely allowed to be searched.
- 4.10.2.9 The Department of Forensic Biology does not routinely request keyboard searches of other NDIS laboratories. A request should only be made if there is a demonstrated and documented need to search another SDIS lab (e.g., public safety threat). If this is the case, analysts should contact their supervisor, manager, and the CODIS group with the request. The CODIS group will process all keyboard search requests.
- 4.10.3 International Searches
- 4.10.3.1 A forensic profile may be searched at a non-CODIS databank (e.g., Interpol). See the NDIS Procedures Manual for further information.
- 4.10.3.2 A non-U.S. 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.