Department of Forensic Science

FORENSIC BIOLOGY PROCEDURES MANUAL

DOCUMENTATION AND EVIDENCE HANDLING REQUIREMENTS

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1 SECTION POLICIES

1.1 To the extent practicable consistent with public safety considerations, the Forensic Biology Section prioritizes the analysis of samples from homicides and sexual assaults and those submitted in cases without an identified suspect.

1.2 As a general rule a substrate control (an unstained area adjacent to the stain) will not be tested nor will the control swabs that may be submitted with the evidence.

1.3 In general, screening followed by DNA analysis of items in a case is limited to the number of items which will yield the most probative information.

1.3.1 Large evidence submissions will be reviewed by the examiner/supervisor via telephone communication or in-person meetings in order to identify the most probative evidence for the respective case and evidence submission will be limited to those items.

1.3.2 Determination of probative evidence will be decided based on a number of factors including the type of case, the evidence collected, the number of victims and perpetrators, etc.

1.3.3 In the event that additional evidence submission is necessary, communication between the assigned examiner and the investigator will occur to facilitate this process and the examination of the subsequent submission in a timely manner.

1.4 DNA analysis of evidence associated with misdemeanor offenses, except any sex-related offenses (such as peeping tom cases), will not be analyzed without a written request from the Commonwealth's Attorney specifying the reason for such testing.

1.5 Requests for DNA analysis of potential "trace" evidence submitted on or after June 9, 2017, are limited to two samples per case for lesser felony crimes such as property crimes, drug possession, and possession of a firearm by a felon.

1.5.1 "Trace" evidence is evidence resulting from limited contact by an individual with a surface or material. This would include primarily objects touched by an individual's hand, such as cigarette lighters, keys, door handles, window frames, knife or firearm grips, triggers, light switches, drawer handles, countertops, gear shift knobs, steering wheels, etc., or swabs from such items. This does not refer to items of evidence on which blood is observed or other biological fluids would expect to be found. For example, items of clothing and gloves are not considered "trace" evidence and may be analyzed in an attempt to identify the wearer of these items. Additionally, evidence that has allegedly come in contact with a person's mouth such as a bottle, can, or cigarette butt is also not deemed "trace" evidence.

1.6 It is recommended that all appropriate known samples be available in order to proceed with DNA analysis. The submission of these samples should routinely be requested prior to an examiner taking possession of a case. However, analysis will proceed without them.

1.6.1 Cases involving the crimes of drug possession and/or firearm/ammunition possession will not be worked without the appropriate known DNA samples from the listed suspect(s). Profiles developed in these cases are typically not eligible for entry into CODIS.

1.7 Kinship statistical analyses related to body identifications will be limited to alleged paternity trio, single parent-offspring, reverse parentage and full sibling relationships. No kinship statistical analyses regarding alleged half-sibling, avuncular-type (uncle/aunt-nephew/niece) or grandparentage relationships will be conducted.

2 REQUIREMENTS FOR DOCUMENTATION

2.1 Refer to the Department of Forensic Science Quality Manual Section for the requirements for "Examination Documentation."

2.2 Specific requirements for examination documentation in the Forensic Biology Section will include the following:

2.2.1 While the use of "shorthand" during note taking is acceptable, it will not be so individualized that it is incomprehensible to all but the examiner using the "shorthand" or the examiners within the same laboratory. The "shorthand" must be easily interpretable by all examiners in the section. A list of acceptable section specific abbreviations for use by examiners in the Forensic Biology Section can be found in Appendix A.

The terms sperm fraction and non-sperm fraction and associated abbreviations may be used inter-changeably with the terms fraction 2/F2 and fraction 1/F1 throughout the case file documentation, but will be reported using fraction 2/F2 and fraction 1/F1 terminology in Certificates of Analysis.

2.2.2 When appropriate, a description of the grouping of stains for testing and the surface of stain deposition will be documented in the case file.

2.2.2.1 The size of staining on a swab or swabs may be documented at the examiner's discretion.

2.2.3 For a stain that will be taken through the DNA extraction process, the approximate location, the approximate size of the stain AND one of the following: the amount (%) or size of the stain consumed for testing OR the amount (%) or size of the stain that remains for possible future testing OR that the stain was consumed in analysis will be documented in the case file. If a resulting DNA extract is then consumed in analysis, this will also be documented in the case file.

2.2.3.1 When describing stained swabs/swabs or bloodstain cards, the minimum requirement for documentation will be the amount (%) or size of stain/swab consumed OR the amount or size of stain/swab that remains for future testing OR that the stain/swab was consumed in analysis.

2.2.4 If a stain or stained area is to be sampled for serology or DNA analysis (i.e., a large area of stains in one general location being considered one stained area) then a portion(s) of the stain shall be taken from a representative sample of stains in that area and treated as one sample.

2.2.4.1 The representative sampling of an item, stain(s), or stained area shall be based upon the examiner's training and experience.

2.2.4.2 This sampling procedure also pertains to trace samples taken from firearms and other objects where a swabbing may be taken from different locations (handle, trigger, etc.). The specific parts of the item sampled for DNA analysis should be listed in the body of the report with wording that accurately describes the locations sampled (see the examples below):

- No DNA typing results were obtained from the grips, trigger, slide release and magazine release of the pistol.
- A DNA profile was developed from a stained area (or stains) found on the cuff of the right sleeve of the white shirt.

2.2.5 Samples that are re-extracted and/or re-amplified will be named in such a way as to allow for the tracking throughout the case file documentation of each individual extract and/or amplification product.

EXAMPLES:		
	Original:	C21-1234.4swab
	Re-extraction:	C21-1234.4swab.re
	Re-amplification:	C21-1234.4swab.ra
	2nd Re-amplification:	C21-1234.4swab.ra2

NOTE: The specific format may differ between regional laboratories and/or examiners; however, the extracts and amplification products must be individually named and easily differentiated.

2.2.6 Documentation of quality control will be included in the case record when appropriate or otherwise available for review within the section. Refer to other sections in this manual for specific requirements.

2.2.7 Lot numbers of reagents used for testing will be recorded in the case file and, as appropriate, in the laboratory's quality control records to establish an audit trail to the quality control documentation.

2.2.8 If an observation, data, calculation, or test result is rejected, the reason for the rejection (e.g., ILS drop off, OS data, A1[data point] deselected to increase Auto r^2 value from 0.527, etc.), the identity of the individual taking the action (i.e., initials or signature) and the date shall be recorded in the case file.

2.2.8.1 The date and initials on a worksheet or notes page will suffice as long as the reason for the rejection is documented on the same date as that reflected for the worksheet/page.

2.2.8.2 Data for a sample may be selected without the rejection of alternate data.

EXAMPLES: A sample (control, evidence, or known reference) is injected at both 12 and 24 sec. Both injections yield the same end typing results, and one is simply selected for use over the other. This is a selection rather than a rejection that does not require documentation of a reason for rejection.

A sample (control, evidence, or known reference) is injected at both 12 and 24 sec, and the 24 sec data is used due to drop out observed in the 12 sec data. This is a rejection of the 12 sec data, and the reason must be documented.

A sample (control, evidence or known reference) is injected, and the decision is made to reamplify.

- If the data obtained with the second amplification is used, this is a rejection of the data obtained with the first amplification, and the reason must be documented.
- If, upon reamplification, the decision is made to use the original data, this is a rejection of the data obtained with the second amplification, and the reason must be documented.

2.2.9 For each set of populatable worksheets on which a batch of case samples are tracked (batch paperwork):

- A single case file from one examiner within that batch will be designated on the Samples Extracted page to contain the original paperwork for all examiners.

  OR

- All case files in the batch will include all pages or copies of all pages with all corrections, and/or additions.

2.2.9.1 If the first option above is chosen, the original paperwork with the original initials of the robot operator(s), loading examiner(s), etc., will be marked, "original paperwork" and maintained in the designated case file.

2.2.9.2 Any corrections made to case numbers or to information that affects more than one case in the batch will appear, at a minimum, on the original paperwork and on all affected case copies.

2.2.9.2.1 This may be accomplished by copying the batch paperwork for all cases once any handwritten corrections are made OR by hand writing the correction(s) on

the original paperwork and each affected case file copy OR a combination of these.

2.2.9.3 Any case specific corrections or additions made (other than case number) may be noted only on the paperwork for that case.

2.2.9.4 Any individual pages within the batch paperwork that do not apply to a specific case need not be included in that case file. However, the case file containing the original paperwork will contain all pages of the batch paperwork.

2.2.9.5 If no separate designation for original paperwork is made on a subsequent sheet (such as a manual reamplification or CE loading sheet) that includes either all or a subset of the same case samples, the original paperwork will also be housed in the same originally designated case file.

2.3 It is strongly recommended that notes also include the following documentation:

2.3.1 Observations regarding the color, size, brand, and designs on clothing, bedding, towels, etc.

2.3.2 Diagrams and/or photographs showing where stains were observed and where specific cuttings of samples were taken. Photographs and diagrams must be appropriately labeled to include the surface (inside or outside), or location (left or right side, top or bottom) of the item if not readily discernible. Refer to the Department of Forensic Science Quality Manual for additional labeling requirements for photographs.

2.3.3 Fabric separations and/or fastener function on articles of clothing, in addition to pocket contents.

2.4 Worksheets used by all examiners and/or support personnel in the Forensic Biology Section can be found in Qualtrax.

3 CONTAMINATION PREVENTION AND DETECTION PROCEDURES

It is each member of the Forensic Biology Section's responsibility to consider the impact of his/her actions at each step of the evidence handling and analysis process to reduce the potential of introducing a foreign DNA source into the evidence or Data Bank samples. Therefore, the practices addressed below are minimum requirements and may be supplemented with more stringent practices based upon training and experience.

3.1 Contamination Prevention Procedures

3.1.1 Cleaning/Decontamination Supplies

3.1.1.1 10% solution of bleach (7 mM sodium hypochlorite)

NOTE: In order for a 10% solution of bleach to be effective, the solution must be prepared daily.

3.1.1.2 Isopropyl Alcohol or 70% Ethanol

3.1.2 General Contamination Prevention Practices

3.1.2.1 Remove disposable gloves after handling or analyzing evidence or Data Bank samples and before using the telephone, any computer key board, etc.

3.1.2.2 Disposable gloves, a laboratory coat, a face mask and head cover **WILL BE WORN** by any member of the Forensic Biology Section while inventorying and preserving the evidence or processing the evidence during the screening process. A laboratory coat, gloves and face mask will be worn during the DNA extraction steps. A laboratory coat and gloves will be worn during all other stages of the sample processing, including handling and labeling tubes. All visitors (individuals who do not have a DNA profile in the Department of Forensic Science Staff Index) **WILL BE REQUIRED** to wear disposable gloves, a laboratory coat, a face mask, and head cover at all times while in the laboratory.

3.1.2.3 If it is necessary for someone to be in close proximity to a member of the Forensic Biology Section while he/she is inventorying and preserving evidence or processing evidence during the screening and DNA extraction steps, the individual **MUST WEAR** disposable gloves, a laboratory coat, a face mask, and head cover.

3.1.2.4 **DO NOT TOUCH** any surface which may contain a contaminant, such as the surface of the skin, eyes, safety glasses, clothing, or an unclean bench-top, while wearing disposable gloves or working with evidence or Data Bank samples. Change gloves if such contact inadvertently occurs.

3.1.2.5 Store all clean swabs, tubes, disposable pipettes, slides, etc., located in an area where evidence is examined/processed in closed containers.

3.1.2.6 Prior to, during, and/or after any evidence preservation, screening, extraction, PCR setup, or post-amplification processes, wipe off examination/work areas (i.e., counter tops, drawer handles, biological safety cabinets, etc.), tools (i.e., tweezers, scissors, pipettes etc.), and tube racks with a 10% solution of bleach or a solution that will remove/degrade DNA. Subsequently use Isopropyl Alcohol or 70% Ethanol to remove the residue left by the chemicals, using special care to remove all residue left on surfaces. Disposable bench paper will also be used to prevent the accumulation of human DNA on permanent work surfaces. A clean cutting surface will be used for each piece of evidence. A fresh scalpel blade may also be used to cut each item/stain.

3.1.2.7 Decontamination of the Pre- and Post-Amplification Rooms (May Be Conducted By Custodial Staff)

3.1.2.7.1 Decontamination practices for the pre- and post-amplification rooms may be modified based upon the laboratory setup and the availability of the custodial staff. To ensure all areas are decontaminated on a routine basis, it is recommended that a list of duties to be performed is shared with the custodial staff.

3.1.2.7.2 Refer to paragraph 3.1.2.6 for decontamination procedure and specific areas to be decontaminated. Also include the handles on the inside and outside of the doors leading into these areas. Use a disposable cleaning rag for decontaminating the post-amplification room and discard it in that room immediately following the decontamination.

3.1.2.7.3 Sweep and mop floors in the post-amplification room with a designated broom and mop and bucket that remain in the room. Each post-amplification room should have its own broom, mop, and bucket.

3.1.2.8 Decontamination of the Biomek® Automation Workstation

Prior to and after extraction, quantitation and PCR setup on the Biomek® Automation Workstation, wipe off all surface areas, pipette tools, and tube racks with a 10% solution of bleach or a solution that will remove/degrade DNA. Subsequently use Isopropyl Alcohol to remove the residue left by the chemicals, using special care to remove all residues left on surfaces.

3.1.2.9 Contamination Prevention Practices for Preservation, Screening, and Analysis of Each Case or Group of Cases

3.1.2.9.1 Work with only one item at a time to avoid sample mix-up and/or contamination.

3.1.2.9.2 Place each item of evidence on a new sheet of paper (i.e., Kimwipe, Kaydry, butcher, blotter, etc.). Change disposable gloves between each item of evidence.

3.1.2.9.3 ALWAYS handle all crime scene samples at a different **TIME** or in a different **SPACE** from standards/known reference samples.

3.1.2.9.4 Handle crime scene samples known to contain low levels of biological material before crime scene samples known to contain a higher concentration of biological material.

3.1.2.9.5 When preserving evidence, use different hoods or place barriers in one hood to separate crime scene samples known to contain low levels of biological material from those known to contain high levels of biological material and standards/known reference samples. Alternatively, crime scene samples can be preserved first, followed by decontamination of the drying area and subsequent preservation of the known reference samples.

3.1.2.9.6 Handle crime scene samples from a case or multiple cases first to prevent the potential of transferring DNA from the known reference samples into the crime scene samples. Handle standards/known reference samples ONLY after the crime scene samples have been put away and the work area and tools (e.g., scissors, tweezers, pipettes, etc.) have been cleaned. Alternatively, if two independent work areas are available, the crime scene samples may be processed

in one area and the standards/known reference samples in another area (i.e., at a different TIME and in a different SPACE).

3.1.2.9.7 Pulse spin all microcentrifuge sample tubes before they are opened to minimize aerosol and splashing. Amplification sample tubes may be pulse spun or "wrist flicked" before they are opened.

3.1.2.9.8 During the extraction, PCR setup/amplification, and post-amplification processes, use a clean technique while opening each microcentrifuge/amplification tube to minimize transferring DNA to the disposable gloves (e.g., use a new Kimwipe per tube, etc.). If the evidence (i.e., stained area or the liquid from the cap of the tube) comes in contact with the disposable glove, change gloves before proceeding to the next stained area, item of evidence, or sample tube.

3.1.2.9.9 Only the paperwork associated with amplification and electrophoresis (or CE analysis) will be carried into and out of the post-amplification room. This paperwork is not to be returned to an evidence examination or DNA extraction area of the laboratory after it has been in the post-amplification room.

3.1.2.9.10 Prior to exiting the post-amplification area remove gloves and laboratory coat, and wash hands in the designated sink.

3.2 General Practices to Prevent Sample Switches

3.2.1 When a procedure requires the sample tube to be opened and the sample to be transferred from one tube to another (such as when preparing extracted DNA for amplification) and/or to perform a procedure (such as when loading samples into a sample plate), place the sample in a new sample tube rack or a new location in the tube rack after completing the process to prevent the sample from accidentally being used a second time.

3.2.2 Any time a sample is transferred from one tube to another, verify the identifying information on the sample tube from which the sample is to be removed and the new pre-labeled tube into which the sample will be transferred **IMMEDIATELY PRIOR TO MAKING THE TRANSFER**.

3.3 General Practice to Detect Sample Switches and Cross Contamination

3.3.1 For samples that are processed together robotically (extracted and/or set up for amplification using the normalization wizard), profiles developed (either in electropherogram form or landscape form), including evidence and reference profiles, will be compared to identify possible sample switches or cross-contamination between samples or cases.

3.3.1.1 This review will, at a minimum, include a comparison of any evidence profiles that are in adjacent or diagonally adjacent wells (the 'box around the sample' approach) and be documented on the robot loading sheet/map in the case file.

3.3.1.1.1 Mixture profiles deemed of no value will be included in this review.

3.3.1.1.2 Cases for which all evidence results in no typing results may be marked N/A for this review.

3.3.1.1.3 Cases for which all evidence samples were extracted separately and added to the robotic platform for quantitation only may be marked N/A for this review.

3.3.1.1.4 Cases for which only known reference samples are processed may be marked N/A for this review.

3.3.2 When possible, keep samples that are extracted at the same time together throughout the entire process.

4 GENERAL ROUTING

4.1 Receive evidence by completing the chain of custody and ensuring that the evidence is sealed properly.

4.2 Inventory and identify evidence and compare the evidential items to the RFLE.

4.2.1 Identification involves marking the evidence in accordance with established policies of the Virginia Department of Forensic Science. (Refer to the Department of Forensic Science Quality Manual.)

4.3 If appropriate, transfer items to other sections in the appropriate sequence as soon as possible. This may require consultation with other sections prior to transfer or screening of evidence for biological substances prior to transfer.

4.4 Preserve samples appropriately (dependent on the type of evidential sample submitted).

4.4.1 Typically this involves short-term refrigeration followed by air drying.

4.4.2 Check to ensure that evidence packaged in plastic is dry and document appropriately.

4.5 Store all evidence in appropriate evidence storage areas in accordance with established policies of the Virginia Department of Forensic Science. Refer to the Department of Forensic Science Quality Manual for specific evidence storage requirements.

4.5.1 Short term storage is used when the evidence is in the process of examination. The length of time evidence may remain in short term storage, generally will not exceed sixty days. After this time period, evidence must be placed into long term storage according to the QM Section 14.9.1.1.

4.6 Screen evidence for biological substances and, as appropriate, conduct DNA analysis.

4.6.1 Consult with other section examiners during analysis, as necessary.

4.7 Return evidence to the primary examiner or to Evidence Receiving for final disposition.

Appendix A - Abbreviations

***	NO AMPLIFICATION RESULTS
??	QUESTIONED OR POSSIBLE
@	AT
ACWA, ACA (IN PROPER CONTEXT)	ASSISTANT COMMONWEALTH ATTORNEY
ACA (IN PROPER CONTEXT)	ANY CALLED ALLELE
ADD'L	ADDITIONAL
ADH/S, S/ADH	SEALED WITH ADHESIVE
AK	ASSUMED KNOWN
ALS	ALTERNATE LIGHT SOURCE
AMP	AMPLIFICATION
ANC	AMPLIFICATION NEGATIVE CONTROL
ANO, AR, A/R	ANORECTAL
AP, ACP	ACID PHOSPHATASE TEST
APPROX, APP, ~ , APPT	APPROXIMATELY, APPARENT
ART	ARTIFACT
AX	ARMEDXPERT
B, BR, BRN	BROWN
B/T, B/W	BETWEEN
BACT	BACTERIA
BB, BROMO	BROMOPHENOL BLUE
BBHSK, BBHK	BLOOD OR BUCCAL AND HAIR SAMPLES KIT
BHS KIT, BHSK, BHKIT	BLOOD AND HAIR SAMPLES KIT
BLD	BLOOD
BOTAN	BOTANICAL
BP	BROWN PAPER
BPB	BROWN PAPER BAG
BPWR, BPWRAP, BPW, BPWP	BROWN PAPER WRAP
BSC	BLOOD STAIN CARD
BSK	BUCCAL SWAB KIT
BT	BLEED THROUGH
BTB	BELIEVED TO BE
BTT	BROWN TOP TUBE
BUC	BUCCAL
__ C	WITH, CONTAINING – ALSO SEE "WITH"
C	CONTAINER
CAL	CALIBRATORS
CB, CBBX, CBX, CBB	CARDBOARD BOX
CBSM	CARDBOARD SLIDE MAILER
CD	CASEWORK DIRECT
CELL. MAT., CELL MAT'L	CELLULAR MATERIAL
CL	CLEAR
CLPB	CLEAR PLASTIC BAG
COLL	COLLECTION, COLLECTED
CONT	CONTAINER
CONT #, C#	CONTAINER (NUMBER)
CONT, CONT'G, ©	CONTAINING
CONT'D	CONTINUED
CONV	CONVENIENCE
CS	CRIMESCOPE
CSF	CSF1PO

CT	COURT
CTRL, CTL	CONTROL
CTS, KPICS, X-MAS TREE STAIN	CHRISTMAS TREE STAIN (KERNECHTROT PICROINDIGOCARMINE STAIN)
CWA, CA	COMMONWEALTH ATTORNEY
DOD	DEPARTMENT OF DEFENSE
DB	DATABANK
D1	D1S1358
D3	D3S1358
D5	D5S818
D7	D7S820
D8	D8S1179
D10	D10S1248
D12	D12S391
D13	D13S317
D16	D16S539
D18	D18S51
D19	D19S433
D21	D21S11
D22	D22S1045
DC, DE, DCE	DEBRIS COLLECTION ENVELOPE
DD	DRIED DOWN
DO	DROP OUT
DDOC, →SC, →DNA CARD	DRIED DOWN ON (STAIN) CARD
DFS TS	DFS TAPE SEALED
DH_2O	DISTILLED WATER
DILN, DIL	DILUTION
DNA	DEOXYRIBONUCLEIC ACID
DNU	DATA NOT USED
E	ETHANOL
EA	EACH
E-CELL, NS, ♀, -E, NSP, F1	EPITHELIAL CELL OR NON-SPERM FRACTION
ELIM, E	ELIMINATION
ELS	EVIDENCE LABEL SEALED
ENV	ENVELOPE
EPI	EPITHELIAL CELLS
ETS	EVIDENCE TAPE SEALED
ETOH	ETHANOL
EVID, EV	EVIDENCE
EXTE, EXTR, EXTL, EXT	EXTERIOR, EXTERNAL
EXT, EXTR	EXTRACT
FAB SEP, FABRIC SPE, FABRIC SEP, FS, F/S	FABRIC SEPARATION
FLUOR, FL, F*, F	FLUORESCENCE
FNC, FC	FINGERNAIL CLIPPINGS
FNS	FINGERNAIL SCRAPINGS
FOR, FRGN, FRG, F	FOREIGN
FRAC, FXN	FRACTION
FRB, RBE, RBNS, NSRB, RB♀	EPITHELIAL CELL (NON-SPERM) REAGENT BLANK
FS LAB	FORENSIC SCIENCE LABORATORY
FT	FAINT
GC	GENOTYPE CONCORDANCE
G/S, GUMS, S/GUM,	GUM SEALED
GE, GLAS, GLS, GL ENV	GLASSINE ENVELOPE
GRN	GREEN
GTT	GREEN TOP TUBE

GYTT	GRAY TOP TUBE
H/F, HF, HS/FS	HAIRS/FIBERS
H/S	HEAT SEALED
HDS, H	HEADS
HH	HEAD HAIR
HOSP	HOSPITAL
HPF, HPV	HIGH POWER FIELD (VIEW)
HPS, HPSW	HIGH POWER SWEEP
HRS	HOURS
HUM	HUMAN
I, I#, #	ITEM #
I, INIT	INITIALED
I, INT (RE: SPERM SEARCH)	INTACT (RE: SPERM SEARCH)
ILS	INTERNAL LANE STANDARD
IM	IMMEDIATE MODERATE
INC	INCONCLUSIVE
INT	INTERIOR
IQ	DNA IQ
IQD	DNA IQ DIFFERENTIAL
IQH	DNA IQ HAIR
IS, SI	IMMEDIATE STRONG OR STRONG IMMEDIATE
IW	IMMEDIATE WEAK
K, KN	KNOWN
KLC	KIT LABEL CLOSED
K HUM BLOOD	KNOWN HUMAN BLOOD
L:	LABEL
L , AL, L	(ALLELIC) LADDER
L/LA, LLA	LIPS/LIP AREA
LB	LOADING BUFFER
LG	LARGE
LL	LUMALITE
LM	LEFT MESSAGE
LPF, LPV	LOW POWER FIELD (VIEW)
LPS, LPSW	LOW POWER SWEEP
LT	LIGHT
L, LFT, L	LEFT
LTT	LAVENDER TOP TUBE
LVM	LEFT VOICE MAIL
M	MICROCON
M/, “ ”	MARKED (LABELED)
MAN, M	MANILA
ME, MENV	MANILA ENVELOPE
MAT, MAT’L	MATERIAL
MED	MEDIUM
MEPERK, ME PERK	MEDICAL EXAMINER PHYSICAL EVIDENCE RECOVERY KIT
MIN	MINIMUM, MINIMAL
MOD	MODERATE
MRB, MCRB	MICROCON REAGENT BLANK – ALSO SEE “REAGENT BLANK MICROCON”
mt	MITOCHONDRIAL
MT, MFG TAG	MANUFACTURER TAG
MFR	MEMORANDUM FOR RECORD
MSG	MESSAGE
MV	MICROVARIANT
N	NORMAL
N/A	NOT APPLICABLE

NAB, NO APP BLD	NO APPARENT BLOOD
NC	NO COLOR
NEATT, NE, NOT EX	NOT EXAMINED (AT THIS TIME)
NEB, NBO	NO EVIDENCE OF BLOOD, NO BLOOD OBSERVED
NEG, -, ∅, 0	NEGATIVE
NFA, NO FA	NO FURTHER ANALYSIS
NFT	NO FURTHER TESTING
NR, NRXN	NO RESULT, NO REACTION
NSRB, NRB, NS RNC	NON-SPERM REAGENT BLANK
NS, NSP	NON-SPERM
NSO	NO SPERM OBSERVED
NT	NOT TESTED
NTF, NFT	NO TYPES FOREIGN, NO FOREIGN TYPES
NV	NO VALUE
NVD	NO VISIBLE DNA
O	ORGANIC
OBS, OBSV	OBSERVED
OC	OMNICHROME LIGHT SOURCE
OCME	OFFICE OF THE CHIEF MEDICAL EXAMINER
OD	ORGANIC DIFFERENTIAL
OE	ORANGE ENVELOPE
O/N	OVERNIGHT
OR	ORAL RINSE
OTCC	OPENED TO CHECK CONTENTS
P/B, PA/BUT, PB, PA/B, PAB	PERIANAL/BUTTOCKS
P/T, PH/TMB, P/TMB, PTMB	PHENOLPHTHALEIN TETRAMETHYLBENZIDINE TEST
PA	PUBIC AREA
PB, PLB	PLASTIC BAG
PC, PHC, PH COMB	PUBIC HAIR COMBINGS
PCR	POLYMERASE CHAIN REACTION
PD	PENTA D
PE	PENTA E
PEB, PL EVID BAG	PLASTIC EVIDENCE BAG
PERK, PRK	PHYSICAL EVIDENCE RECOVERY KIT
PH	PUBIC HAIR
PHR	PEAK HEIGHT RATIO
PKG	PACKAGE
PL	PLASTIC
PM	PLANT MATERIAL
P, POS, POS CTRL, +, ⊕	POSITIVE, POSITIVE CONTROL, 2800M
POSS	POSSIBLE
PP16	PowerPlex® 16
PTB	PRESUMED TO BE
PTT, PTBT, PT	PURPLE TOP BLOOD TUBE
PRSP	PERSPIRATION
Q	QUESTIONED
QNS	QUANTITY NOT SUFFICIENT
RB, RNC	REAGENT BLANK
R-B, R/B, RED/BR, RB	RED-BROWN
RBB, BRB, RCB	BLOOD REAGENT BLANK
RBC	RED BLOOD CELLS
RBF	REAGENT BLANK FEMALE
RB-H	REAGENT BLANK - HAIR
RB-IQ	REAGENT BLANK – IQ METHOD

RBM	REAGENT BLANK MALE
RBMC, RBMIC, RBMICRO	REAGENT BLANK MICROCON
RBS, RBSP, SRB RB♂, SP RNC	SPERM REAGENT BLANK
RE	REGARDING
RI	RE-INJECTION
RS	RANDOM SAMPLE
RT, R, (R)	RIGHT
RTT	RED TOP TUBE
SP, S FRAC, SP FRAC, ♂, -S, F2	SPERM FRACTION
S, SUS, SUSP, (S)	SUSPECT
S/	SEALED
S+I, S/T+I, TS+I, T/S & I	SEALED AND INITIALED (WITH TAPE)
S/T+U	SEALED WITH TAPE AND UNINITIALED
SAN PAD, PAD	SANITARY PAD/NAPKIN
SC	STAIN CARD, SUBSTRATE CONTROL
SF, SEM FL	SEMINAL FLUID
SIM	SIMILAR
SL, S/T	SLIGHTLY
SM	SMALL
SM+	SLOW MODERATE POSITIVE
SMR	SMEAR
SN, S#, SN#	SERIAL NUMBER
SP	SPERM
SPERK	SUSPECT PHYSICAL EVIDENCE RECOVERY KIT
SS	SLOW STRONG
SS, STC	STAPLE SEALED (CLOSED)
SS#, SSN	SOCIAL SECURITY NUMBER
ST	STUTTER
STH	STOCHASTIC
STD, STND	STANDARD
STER	STERILE
STN'D	STAINED
STR	SHORT TANDEM REPEAT
STT, SST	SERUM SEPARATOR TUBE
SUB	SUBMISSION
SW (RE: AP RESULTS)	SLOW WEAK
SW/, S/W, S/	SEALED WITH
TA	TRUE ALLELE
TCH	TOUCH
T/E, T/EG, T/G, TH/EG, TEG	THIGHS/EXTERNAL GENITALIA
TD	TRACKING DYE
TNTC	TOO NUMEROUS TO COUNT
TT	TEST TUBE
U	UNSEALED
UND, UNDPTS, UP, UDPS, UDP'S, UDPTS, UPS	UNDERPANTS
UNI	UNINITIALED
UNSUB	NO SUSPECT
V (ADJ)	VERY
V, VIC, VICT, (V)	VICTIM
V/C, VC	VAGINAL/CERVICAL
VAG	VAGINAL
VEG	VEGETATIVE
VF	VAGINAL FLUID
VF'D	VERIFIED

VM	VOICE MAIL
VMM	VOICE MAIL MESSAGE
VPERK	VICTIM PHYSICAL EVIDENCE RECOVERY KIT
W/, $\overline{W}$	WITH – ALSO SEE "CONTAINING"
W/IN, W/I	WITHIN
WBC	WHITE BLOOD CELLS
WE	WHITE ENVELOPE
WH	WHITE
WK, W	WEAK
WPB	WHITE PAPER BAG
WPWR, WPWRAP, WPW	WHITE PAPER WRAP
WR	WEARER
WS	WHOLE SERUM
YEL, YELL, YW	YELLOW
Y-T	YELLOW-TAN
YTT	YELLOW TOP TUBE
ZPB, ZLPB, PL ZP BG, PLZLB, PZLB, ZLB, ZL BAG	ZIPLOCK PLASTIC BAG

NOTE: The foregoing abbreviations are independent of upper or lower case and may be combined to generate new abbreviations (i.e., VHH = victim head hair, Sbld = suspect blood, etc.). Customary scientific abbreviations (O_2, H_2O, etc.) are considered common knowledge and are not included here.