
Procedure for Evidence Handling

1.0 Purpose - This procedure specifies the method for handling evidence and work products within the Forensic Biology Section.

2.0 Scope – This procedure applies to those Forensic Scientists who handle forensic evidence/work products.

3.0 Definitions – See Section Definitions List

4.0 Equipment, Materials and Reagents

- Thermo-Scientific Savant DNA 120 Speedvac Concentrator (or equivalent)
- Ethanol

5.0 Procedure

5.1 Each sample shall be labeled in accordance with the Procedure for Evidence Management and Forensic Biology Section Procedures.

5.1.1 Labeling

5.1.1.1 Hair packets received with a SAEK shall be given a sub-item number.

5.1.1.2 All tubes containing extracted DNA (including controls) shall contain the distinguishing portion of the case file number, the item number, the date of extraction and the Forensic Scientist's initials.

5.1.1.3 When slides are prepared during the QIAcube separation process, the set of slides shall be assigned a new container number (e.g. C1) in Forensic Advantage to facilitate transfer to the investigating agency.

5.1.1.4 When extraction tubes containing knowns, unknowns, and controls are being transferred back to the investigating agency, the set of tubes shall be assigned a new container number in FA.

5.1.1.5 If the dried DNA extracts are resubmitted to the Laboratory, the extracts will be reconstituted in AmpGrade water as follows: If the extracts were previously quantified with Quant Trio, the pellet may be reconstituted in the approximate remaining volume from the original extraction. If another quantification kit was used, add 50 µl to each sample to reconstitute the dried pellet. Place tubes in a thermomixer for a minimum of 3 hours at 800rpm with no heat to ensure pellet is fully dissolved prior to processing.

5.2 Storage - All evidence submitted for testing that is not actively being examined shall be stored as follows:

- All work product shall be refrigerated. All evidence with the exception of liquid blood samples shall be stored at room temperature.
- All bone and tissue shall be stored in the freezer.

5.3 Evidence Security - Evidence shall be maintained in a manner to avoid loss, contamination, and/or deleterious change but still allow access by the examiner during the examination process. All other evidence shall be sealed properly.

5.3.1 Evidence shall be secured prior to the Forensic Scientist leaving the room.

5.3.2 The Section Evidence Vault shall be secured at all times other than when an employee is in the vault.

5.4 General Procedure

5.4.1 The paperwork with the Sexual Assault Evidence Collection kits shall be evaluated for the time elapsed from alleged assault to collection of kit. If this time is ≥ 5 days, the kit shall not be examined without written documentation from the Body Fluid Technical leader with explanation of the extent of examination. Victim and suspect hair evidence found in the Victim and Suspect kits, any hair found in the panties in the Sexual Assault Evidence Collection Kits and the hair standards may be transferred to the Trace Unit; or, if all hair standards are not present, returned to the submitting agency; or returned to the submitting agency based upon the results of the examination in the Forensic Biology Section. For other items of evidence, refer to the State Crime Laboratory Policy and Procedure for Evidence Submissions for the requirements for processing of hair evidence. If hair evidence is not being analyzed, this shall be reflected in the report.

5.4.2 All liquid blood samples shall be removed from evidence packages and refrigerated until a blood stain can be prepared on S&S 903 paper (or equivalent). If the Forensic Scientist determines the sample is too old or degraded to be useful as a standard, the sample need not be refrigerated and a bloodstain need not be prepared. If a bloodstain or known saliva sample is also sent with the liquid blood, then a bloodstain does not need to be made. All liquid blood samples shall be processed in a Biological Safety Cabinet. After preparation of the bloodstain, the blood tubes shall be re-capped and the tube shall be placed in a heat sealed container and placed back with the evidence. The bloodstain shall be sub itemed and packaged in a properly labeled and sealed coin envelope after it is dried. The report shall reflect "A bloodstain (Item ____) was prepared from the liquid blood sample (Item ____)."

5.4.3 If a swabbing or cutting is taken from an item for DNA analysis, indicate in the case notes that a swabbing/cutting was taken. The report shall reflect "A swabbing/cutting (sub-item if applicable) was taken from ____ (Item ____) for DNA/further testing.

5.4.4 To maximize the potential of obtaining results from minimal sample amounts, it is permissible to consume the entire piece of evidence during analysis. The complete consumption of the evidence shall be documented in the case notes. If evidence is consumed completely and no packaging remains, an evidence transfer shall be performed in Forensic Advantage indicating consumed in analysis.

5.4.5 DNA Forensic Scientists shall return all evidence to the investigating agency. The work product shall be disposed of in the biohazard trash (excluding DNA extracts.)

5.4.6 Upon completion of the DNA analysis, DNA extracts shall be dried down, assigned one container number in Forensic Advantage (FA) and returned to the investigating agency. The DNA extracts and their corresponding controls will be treated as follows:

5.4.6.1 Wipe the interior of each speedvac with ethanol. Separate speedvacs must be used when drying down extracts from known and unknown samples.

5.4.6.2 Centrifuge the extracts to remove any liquid that may have condensed in the cap. Remove the caps and discard them. Place the extract tubes in the speedvac.

5.4.6.3 Set the speedvac to “auto” mode, medium drying rate, and heat “off”. The timer will automatically shut off after two hours. If the pellet does not appear completely dry, turn the speedvac on for a longer time.

5.4.6.4 Cap the tubes containing the dried extracts using new, clean caps and package for return to the submitting agency.

5.4.7 If the outer seal required remediation, then a note shall be made in the notes.

5.4.8 If an analyst must repackage an item, this shall be noted in the notes.

5.4.9 Inner packaging does not require a proper seal unless it becomes outer packaging for another section.

5.5 In cases where additional testing cannot be performed without additional standards being submitted, the following statement (or equivalent) shall be added to the Lab Report:

When the requested standards are obtained, resubmit Items ____ along with the standards for DNA analysis.

5.6 Edits in FA will be done for the following instances:

5.6.1 If the name on the evidence is different from the information in FA.

5.6.2 If the description of the evidence is significantly different from the information in FA.

5.6.3 If the FA evidence description states “swab” and there is additional location information provided.

5.6.4 To add the name to the reference standard.

5.7 Verification reviews will be performed for the following instances:

5.7.1 Microscopic identification of a spermatozoon

5.7.2 Second reading of RSID results

5.8 Disposition of Human Remains

5.8.1 When the Forensic Biology Section returns human remains to investigating agencies, the Disposition section of the Lab Report shall contain the following statement (or equivalent):

NOTE: Evidence being returned in this case includes human remains which need to be kept frozen to avoid degradation and offensive odors.

5.9 External Transfer of Evidence

5.9.1 All evidence transfers to outside agencies and from another Laboratory shall be made through the Evidence Control Unit.

- 5.9.2** The only exception to **5.9.1** shall be the direct transfer of evidence between Forensic Scientist and officer (e.g., Evidence Control requests Forensic Scientist to review and evaluate a case). Paperwork shall be cleared through the Evidence Control Unit.

6.0 Limitations – N/A

7.0 Safety - N/A

8.0 References – N/A

9.0 Records – N/A

10.0 Attachments – N/A

Revision History		
Effective Date	Version Number	Reason
09/17/2012	1	Original Document
12/07/2012	2	5.4.4 – added wording to exclude DNA extracts from being disposed
02/01/2013	3	5.4.1 – added wording to refer hair evidence to Evidence Guide, 5.4.6 – changed procedure to dry down using an incubator, removed speedvac option, added Evidence Guide as reference.
05/30/2013	4	5.1 - adjusted wording to make consistent with other Section documents
09/13/2013	5	5.1.1.2 – 2 nd paragraph renamed as 5.1.1.3; 5.1.1.4 – clarified wording; 5.1.1.5 - added procedure for resubmission of extracts for analysis; 5.4.1 – changed hair transfer requirement to align with trace requests based on the results of analysis; 5.4.5 - removed section (slides remain with associated swabs)
10/16/2013	6	5.4.4 – removed “dried;” 5.4.5 – removed requirement for drying down DNA extracts, added requirements for returning DNA extracts in liquid form; added issuing authority to header.
12/18/2013	7	3.0, 5.2 – removed references to handling of dried DNA extracts
08/29/2014	8	5.4.1 – added time elapsed for kit examination; Trace Unit name changes
02/27/2015	9	5.4.5 – clarified wording; 5.3.1 – updated wording
12/28/2015	10	2.0 – added work product to scope; 5.1.1.4, 5.4.5.2 – original removed, added updated wording to Report Writing; 5.1.1.4 – removed for re-analysis; 5.3 – Updated due to change in storage; 5.4.5, new 5.4.5.2 – removed Item, replaced with Container
12/20/2016	11	3.0 – removed definitions; 4.0 – added materials for speedvac; 5.1.1 – added hair packet and container, removed amp product and trays;

		5.1.1.4.3 – added dried extracts; 5.4.3 – added requirements for swabbing/cutting; 5.4.4 – added requirement for complete consumption; 5.4.6 – added drying of extracts for return; 8.0 Removed Evidence Guide
03/23/2018	12	4.1.1.4.3 – added allowance to reconstitute extracts in volumes other than 50ul; 5.4.1, 5.4.2 – added report writing wording; 5.5 – added requested standards wording
01/25/2019	13	5.1.1.1 – remove hair packet note; 5.1.1.3 – add Container for slide creation wording; 5.1.1.5 – remove evidence sub-item; 5.4.2 – added bloodstain creation limitation (from standardization); 5.4.7, 5.4.8, 5.4.9 – added remediation notation; 5.6 add reporting for FA edits; 5.7 add requirements for verification review