



Intermountain Forensics

SOP # ADM-108

Revision # 01

Forensic DNA Technical Leader Approval

Issue Date

5/21/20

Proficiency Testing

1. Purpose

Describes the requirements for laboratory staff proficiency testing.

2. Summary

This document describes the timeframe and extent to which laboratory staff are required to participate in proficiency testing. Requirements for documentation and approval are explained. Final approval steps of the Forensic DNA Technical Leader are noted.

3. Procedure

1. Analysts, technical reviewers, molecular biologists, and other personnel designated by the technical leader, undergo semi-annual external proficiency testing to the extent at which they have been deemed competent and perform casework.
2. Analysts are tested in each technology and each typing kit at least once per calendar year.
 - a. Individuals whose sole responsibility is technical review are tested in the technical review of each technology and typing kit at least once per calendar year.
 - b. If multiple typing kits of the same technology are included for the same test:
 - i. Only report allelic data from one kit.
 - ii. Only perform statistical calculation once per item/fraction.
3. Individuals that perform laboratory work on forensic samples are tested on at least one method in each methodology at least once per calendar year.
 - a. The first proficiency test for newly qualified individuals will be completed within six months of their sign-off date.
 - b. The first proficiency test (PT1) of the calendar year shall be completed within January 1 to June 30
 - c. The second proficiency test (PT2) of the calendar year shall be completed within July 1 to December 31
 - d. The timeframe between PT1 and PT2 completion will be at least 4 and not more than 8 months
 - e. If not submitted within the aforementioned timeframe(s), competency for the relevant methodology, technology and/or procedure(s) will be discontinued
4. All proficiency tests are administered by an external, accredited, proficiency test provider.
5. Records for proficiency tests are maintained including:
 - a. The test set identifier
 - b. Identity of the analyst, and other participants, if applicable
 - c. Date of analysis and completion
 - d. Copies of all data and notes supporting the conclusions
 - e. The proficiency test results
 - f. Any discrepancies noted and any Corrective actions taken.
6. The test results are evaluated for:
 - a. Correctly reported genotypes, phenotypes, and/or sequences according to consensus results or are compliant with the laboratory's interpretation guidelines.
 - b. Correct inclusions and exclusions.
 - c. All reported uninterpretable results and/or inconclusive conclusions are compliant with written laboratory guidelines.
 - i. Must also be reviewed and approved by the DNA Technical Leader
 - ii. Discrepant results to the proficiency test provider must be explained and documented if approved as acceptable by the Forensic DNA Technical Leader (e.g. a "*" for a minor donor component in the vaginal swab in the staff's proficiency test that is not concordant with the allele call provided by the provider)
7. All final proficiency tests shall be evaluated as satisfactory or unsatisfactory.



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- a. All discrepancies or errors and subsequent corrective actions, as applicable, shall be documented.
 - b. Proficiency tests designated as unsatisfactory must initiate a corrective action
8. The proficiency test participant(s) and the technical leader must be informed of the results.
9. If an individual loses competency as a result of a missed proficiency test cycle, a new competency test (and subsequent proficiency test within 6 months) of re-established competency is required.

4. References

N/A

5. Definitions

Method: A combination of procedural steps used to perform a specific technical process. The method includes the validated steps, reagents, and critical instruments needed to perform the process or portion of a process. The same method may be conducted using different equipment (automated vs manual) when appropriately validated.

Methodology: The categories of methods used to perform a stage of a DNA typing technology or technologies. For example, methodologies for STR technology can include extraction, quantification, amplification, and detection.

Technology: The type of forensic DNA analysis performed in the laboratory (STR, YSTR, XSTR, SNP, microhaplotypes and/or mitochondrial DNA).

Completion Date: A proficiency test is completed upon 1) Completion and sign-off of the case and report and 2) successful submission to the proficiency test provider.