



Intermountain Forensics

SOP # ADM-108

Revision # 05

Forensic DNA Technical Leader Approval

Issue Date

01/08/2024

Proficiency Testing

1. Purpose

Describes the requirements for the proficiency testing program at Intermountain Forensics.

2. Summary

This document describes the timeframe and extent to which 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. Testing Cycle

- a. 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.
 - i. The first proficiency test for newly qualified individuals will be completed within eight months of their sign-off date.
 - ii. The first proficiency test (PT1) of the calendar year shall be completed between January 1 to June 30.
 - iii. The second proficiency test (PT2) of the calendar year shall be completed between July 1 to December 31
 - iv. The timeframe between PT1 and PT2 completion will be at least 4 and not more than 8 months.
 - v. The received date of the proficiency test to the proficiency test provider will be the determining date of these timeframes for the laboratory.
 - vi. If a Proficiency Test is not completed during the prescribed time frames, the participant will lose proficiency to the extent that was required in that cycle for that individual, on the first day after the proficiency testing period ends (i.e., Proficiency ends July 1 for an incomplete test due between January 1 to June 30).
 1. A practical test must be completed in this instance to re-establish the proficiency test cycle for that individual.
 2. A modified training program may be implemented prior to a practical test being administered, depending on the length of time the individual was separated from casework and their experience level.
- b. Analysts are tested in each technology and each typing kit at least once per calendar year.
 - i. If multiple typing kits of the same technology are included for the same test:
 1. Only report allelic data from one kit.
 2. Only perform statistical calculation once per item/fraction.
 - a. Statistical calculations are typically not required by the proficiency test provider but will be reported, documented, and reviewed within the case documentation for the proficiency test.



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- c. The laboratory utilizes both Capillary Electrophoresis (CE) and Next Generation Sequencing (NGS) on casework and thus, proficiency testing for each of these is required in each calendar year.
 - i. The laboratory will run all CE kits in one PT cycle (PT1, PT2) and all NGS kits in the alternative PT cycle (PT1, PT2) in each calendar year to the extent to which the staff member is competent.
 - ii. The laboratory will ensure each typing test kit (CE-Globalfiler, CE-24Plex) are utilized at minimum once in each calendar year
 - d. Individuals whose sole responsibility is technical review are tested in the technical review of each technology and typing kit, to the extent to which the staff member is authorized at least once per calendar year.
 - e. Individuals that perform laboratory work on forensic samples are tested on at least one method in each methodology at least once per calendar year.
 - i. The monitoring program should be varied to include all aspects of assigned job functions over time (i.e., to include various types of extractions, and body fluid identification)
 - f. All proficiency tests are administered by an external, accredited, proficiency test provider where one is available, and the results must be submitted to the proficiency test provider so that they are included in the PT provider's external summary report. If an accredited proficiency test provider is not available, an interlaboratory comparison, intralaboratory comparison, or observation-based monitoring may be performed. Refer to ANAB's MA 3033 for requirements on approvals for alternatives to proficiency tests and the applicable accreditation standards to ensure all monitoring standards are met.
2. Test Documentation
- a. Records for proficiency tests are maintained including:
 - i. The test set identifier.
 - ii. Identity of the analyst, and other participants, if applicable.
 - iii. Date of analysis and proficiency test completion.
 - iv. The proficiency test results.
 - v. Any discrepancies noted and any corrective actions taken
 - b. Proficiency tests will be treated in the same manner as casework. Reports will be issued and copies of all data and notes supporting the conclusions (including statistical calculations and proficiency test submission documentation) will be retained in the appropriate proficiency test file folder using the same file structure as casework.
 - c. Prior to submission of the test results to the proficiency test provider, the results must receive, at a minimum, a technical review. For the test to be considered complete, the associated report must be both technically and administratively reviewed according to IAC-201 Technical and Administrative Review.
 - d. A proficiency test log (DOC-319 Proficiency Test Log) will be utilized to document relevant information (see above) as well as schedules for future planned proficiency tests for laboratory staff.
3. Evaluation
- a. All final proficiency tests shall be evaluated as satisfactory or unsatisfactory.
 - i. All discrepancies or errors and subsequent corrective actions, as applicable, shall be documented.
 - ii. Proficiency tests designated as unsatisfactory must initiate a corrective action



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- iii. ANAB must be notified if the expected results are not attained in a proficiency test.
 - 1. The expected result is defined by ANAB as the consensus result
 - 2. This includes an inconclusive result when the expected result is an inclusion/exclusion.
- b. DNA test results are also evaluated for:
 - i. Correctly reported genotypes, phenotypes, and/or sequences according to consensus results or are compliant with the laboratory's interpretation guidelines.
 - ii. Correct inclusions and exclusions.
 - iii. All reported uninterpretable results and/or inconclusive conclusions are compliant with written laboratory guidelines.
 - 1. Must also be reviewed and approved by the DNA Technical Leader
 - iv. Discrepant results to the proficiency test provider must be explained and documented if approved as acceptable by the Forensic DNA Technical Leader
- c. The completion of the evaluation will be documented on DOC-324 DNA Proficiency Test Results Evaluation Form. A copy of the completed form will be stored in the Case Documents folder of the proficiency test file folder.
- 4. The proficiency test participant(s) and the technical leader must be informed of the results of the test.
 - a. The notification will be documented on DOC-324 DNA Proficiency Test Results Evaluation Form. A copy of the completed form will be stored in the Case Documents folder of the proficiency test file folder.

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 of the technical and administrative review of the case and report and 2) successful submission to the proficiency test provider.

Received Date: The date that the test is received in the laboratory and entered into JusticeTrax