



Intermountain Forensics

SOP #

ORG-203

Revision #

04

Forensic DNA Technical Leader Approval

Issue Date

11/28/2022

Position Summary-Forensic DNA Technical Leader

1. Purpose

To describe the roles and responsibilities of the position of Forensic DNA Technical Leader within the organization and provide the minimum and preferred education, experience, certification, knowledge, skills, and abilities required for the position.

2. Summary

The Forensic DNA Technical Leader is responsible for ensuring the output of the laboratory is of the highest quality and as such has authority and oversight of all aspects of the technical operation. The Forensic DNA Technical leader has the absolute authority to initiate, suspend and resume DNA analytical operations for the laboratory or an individual within the laboratory.

3. Procedure

Minimum Educational Requirements

1. Master's degree in a natural, physical, or forensic science area Successful completion of twelve semester (or equivalent) credit hours from a combination of the following subject areas:
 - a. Biochemistry
 - b. Genetics
 - c. Molecular Biology
 - d. Statistics and/or Population Genetics
2. One **graduate level** course registering three or more semester (or equivalent) credit hours in the above listed subject area(s)
3. Coursework other than the above listed subject area may be substituted provided:
 - a. Substituted coursework must be demonstrated and documented to be compliant with the standard
 - b. Compliance and documentation may be demonstrated with pertinent materials such as:
 - i. Transcripts
 - ii. Syllabus
 - iii. Letter from the instructor
 - iv. Other relevant documentation that supports course content

Minimum Experience Requirements

1. Three years of Forensic DNA laboratory experience:
 - a. Obtained at a laboratory where DNA testing was conducted for the identification and evaluation of biological evidence in criminal matters
 - b. Obtained as a **qualified** DNA analyst on human DNA testing on forensic samples

Minimum Training Requirements

1. Federal Bureau of Investigation Quality Assurance Standards (FBI QAS) auditor
 - a. May be obtained within one calendar year of appointment to the position
2. ISO 17025 ANSI National Accrediting Board (ANAB) Technical Assessor (or equivalent)
 - a. May be obtained within two calendar years of appointment to the position



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Preferred Certification Requirements

1. American Board of Criminalists (ABC) certification in an applicable field (or equivalent)
 - a. Applicable fields include Biological Evidence Screening (ABC-BIO), Forensic DNA (ABC-DNA), and Molecular Biology (ABC-MB)
2. Yellow Belt, Green Belt, or Black Belt in a Process Improvement methodology (i.e., Lean Six Sigma, Lean, Six Sigma, Total Quality Management)

Mandatory Roles and Responsibilities

3. The Forensic DNA Technical Leader must be a full-time employee of the laboratory
 - a. Must be accessible to the laboratory to provide onsite, phone or electronic consultation as needed
4. Evaluate and document approval of:
 - a. All validations (developmental, internal) and performance checks within the laboratory
 - b. Technical methods used by the laboratory
 - c. Academic transcripts and training records for newly qualified Forensic DNA personnel (including Forensic DNA Analysts)
 - d. Qualifications of Forensic DNA personnel prior to independent casework analysis
 - e. Technical specifications for outsourcing agreements
 - f. Review of internal and external DNA audit documents
 - i. If applicable, corrective action(s) resulting from DNA audits
 - g. Annual review of procedures of the laboratory
 - h. Training, quality assurance and proficiency testing programs in the laboratory
 - i. Contract employees (where potential conflicts of interest may occur when contract employees are employed by multiple NDIS participating and/or vendor laboratories)
 - j. Court testimony
5. Propose new or modified analytical procedures to be used by Forensic DNA personnel
6. Monitor personnel issues, proceed with progressive discipline and/or mentor technical personnel through the process
 - a. As necessary to ensure the quality of the laboratory, authorize suspension of technical duties of personnel
 - ii. If applicable, re-authorize technical duties of suspended personnel after corrective action to ensure quality has been re-established and sufficiently documented
7. Monitor and ensure the laboratory remains in compliance with the applicable accreditation standards and the FBI QAS standards
 - a. As necessary to ensure the quality of the laboratory, authorize suspension of technical operations
 - iii. If applicable, re-authorize technical operations of the laboratory after corrective action to ensure quality has been re-established and sufficiently documented
8. Newly appointed Technical Leaders shall be responsible for the documented review of the following before assuming the Forensic DNA Technical leader role:
 - a. Validation studies and methodologies currently used by the laboratory
 - b. Educational qualifications and training records of currently qualified analysts.

Additional Roles and Responsibilities

9. Develop, approve and maintain Quality Assurance (QA) Manual and Management System to ensure compliance with applicable accreditation and FBIQAS standards
10. Develop, approve and maintain chain of custody protocols and procedures



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11. Participate and ensure the laboratory staff maintain necessary training, competency testing, and proficiency testing according to established protocols and accreditation standards.
12. Act as a qualified Forensic DNA Analyst:
 - a. Perform scientific examination, all laboratory efforts, and DNA analysis of biological evidence collected in connection with death and criminal investigations, including comparison and interpretation of DNA profiles as well as statistical analysis as applicable
 - i. DNA interpretation and analysis (STR, SNP, NGS, mtDNA) required as needed
 - ii. Non-criminal casework (private DNA testing, research, genealogy studies etc.) may be required as needed
 - b. Crafting and authorizing laboratory reports as a result of testing, interpretation and analysis
 - c. Provide Forensic DNA technical and/or administrative peer review
 - d. Testify as an expert witness in court proceedings
 - e. Successfully complete proficiency testing requirements
13. Participate in continuing education (workshops, training courses, conferences etc.) as per laboratory policy and applicable accreditation, certification, and FBI QAS requirements
 - a. Maintain documentation of above participation as per policy
14. Maintain at least a minimum level of productivity as determined by scientific board for review
15. Adhere to all safety procedures and protocols as mandated by the laboratory management system

4. **References**

1. Federal Bureau of Investigation, "Quality Assurance Standards for Forensic DNA Testing Laboratories"
2. ISO/IEC 17025:2017 – Forensic Science Testing and Calibration Laboratories

5. **Definitions**

N/A