



SWGDM Clarification on the Reinterpretation of Data Typed with Legacy Amplification Test Kits

Scope

This document is intended to clarify the requirements in the FBI Director's *Quality Assurance Standards for Forensic DNA Testing Laboratories* for analysts that need to reevaluate old cases completed with DNA amplification test kits for which current analysts are not qualified.

Introduction

Standard 13 states, in part, that “All analysts, technical reviewers, technicians, and other personnel designated by the technical leader, must be externally proficiency-tested semi-annually, in each DNA technology to the full extent in which they perform casework examinations.”

“Technology is used to describe the type of forensic DNA analysis performed in the laboratory, such as RFLP, STR, YSTR, or mitochondrial DNA” and “all individuals must be proficiency tested in each technology performed to the full extent in which they participate in casework.”

As stated above, an analyst's proficiency test must cover the full extent in which they participate in casework; therefore, by the strictest reading of Standard 13, an analyst can only interpret data generated by the amplification test kit in which he or she is currently proficiency tested. This would preclude an analyst from interpreting (or reinterpreting) data generated from an amplification test kit that a laboratory has abandoned, but may still exist in a legacy case file.

For example, a laboratory had previously generated an STR DNA profile using a legacy amplification test kit that is either no longer in use by the laboratory, or is unavailable. Years later, the laboratory has generated additional profiles germane to the case using a newer amplification test kit. According to Standard 13, if the analyst is currently not proficiency tested in the legacy amplification test kit, the analyst could not reinterpret the legacy data. The analyst could only use the legacy data as is. In other words, the



legacy data may be used as interpreted by the original analyst for comparison, CODIS entry, statistics, etc.

Questions have arisen regarding proficiency testing requirements for analysts who interpret data generated by legacy amplification test kits when a comparison is made to DNA profiles generated with amplification test kits in current use. The following is intended to clarify what qualifies as a reinterpretation of legacy amplification test kit data and the requirements of the laboratories who encounter these interpretations.

Definition of Reinterpretation of Legacy Amplification Test Kit Data

The assessment of a candidate match within CODIS that was searched at high stringency and involves a comparison between two single source CODIS entries that match at high stringency is not considered a reinterpretation of legacy data.

Similarly, if a casework (forensic) DNA profile interpretation has previously been documented regarding the genotypes that would be allowed for possible contributors, that interpretation may be compared to the results of moderate stringency search candidate matches and would not be considered reinterpretation.

Moderate stringency matches between a candidate and target DNA profile where: (1) one or both of the DNA profile(s) originate from legacy data; and (2) the match involves comparisons of the original image(s) or electropherogram(s) to assess the match; are considered reinterpretation.

Assessing/evaluating allele calls, genotype calls (to include potential allelic drop-out), a change in the assumptions used, or removing alleles (or entire loci) from statistical estimates from legacy amplification test kit data, are all considered reinterpretation.

Analyst Requirements for the Reinterpretation of Legacy Amplification Test Kit Data

If an analyst is sufficiently trained, has reviewed the validation and standard operating procedures for the appropriate application of analytical parameters (e.g., thresholds,



peak height ratios), the analyst would be able to review and reinterpret legacy data in accordance with the following:

1. If an analyst(s) is currently qualified (trained and proficiency tested) in the amplification test kit, the analyst can reinterpret the data.
2. If an analyst is currently qualified in an amplification test kit (trained and proficiency tested), and the analyst was previously qualified (trained and proficiency tested) in the legacy amplification test kit, the analyst can reinterpret the legacy data if the analyst has been proficiency tested on the legacy test kit within the last two calendar years. If an analyst has not been proficiency tested on a legacy test kit within the last two calendar years, then the Technical Leader must document and approve the completion of the analyst's review of the validation data and standard operating procedures of the legacy test kit. If an analyst, who has completed the requirements to interpret legacy amplification test kit data, has not reviewed the required documents within the last two calendar years, the Technical Leader must document and approve the completion of the analyst's additional review.
3. If an analyst is currently qualified in an amplification test kit (trained and proficiency tested), but has never been previously qualified in the legacy amplification test kit, the analyst can reinterpret the legacy amplification test kit data if the analyst is trained in the legacy test kit interpretation protocols by a previously qualified analyst. The review of the validation data and standard operating procedures of the legacy test kit, training by the previously qualified analyst, and interpretation competency test must be completed by the analyst, and documented and approved by the Technical Leader. Documentation shall contain sufficient information for an auditor to confirm the analyst is qualified to reinterpret legacy amplification test kit data.
4. If a previously qualified analyst is unavailable to train a currently qualified analyst on a legacy amplification test kit, it is highly recommended that the current analyst not reinterpret legacy data. However, if the current analyst must



perform legacy interpretation without training from a previously qualified analyst, then it is recommended that the currently qualified analyst and Technical Leader train in the legacy test kit interpretation protocols, review validation data and standard operating procedures. The training and interpretation competency test must be completed by the analyst, and documented and approved by the Technical Leader. Documentation shall contain sufficient information for an auditor to confirm the analyst is qualified to reinterpret legacy amplification test kit data.

5. If a laboratory generates new interpretation protocols from legacy validation data (e.g., developing a stochastic threshold when none previously existed), the laboratory shall document the basis for the new interpretation protocols. These new protocols shall be documented in the laboratory's standard operating procedures and memorialized in the Quality Assurance Standards Audit Document. The training and interpretation competency test must also be completed by the analyst, and documented and approved by the Technical Leader. Documentation shall contain sufficient information for an auditor to confirm the analyst is qualified to reinterpret legacy amplification test kit data.

Technical reviewers of reinterpretations of the legacy data are held to the same training requirements as the analyst reinterpreting the data.

Approved June 6, 2016
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