

Standard for Forensic DNA Interpretation and Comparison Protocols



WHAT IS AN AAFS STANDARD FACTSHEET?

The AAFS produces clear, concise, and easy-to-understand factsheets to summarize the contents of technical and professional forensic science standards on the OSAC Registry. They are not intended to provide an interpretation for any portion of a published standard.

WHAT IS THE PURPOSE OF THIS STANDARD?

Testing of evidence containing DNA (e.g., blood, semen, saliva, tissue) is routinely performed to exclude or potentially link an individual to a crime scene.

Accurate and consistent evaluation of DNA test results requires the forensic science service provider (FSSP) performing DNA testing to 1) conduct sufficient validation studies, 2) develop documented procedures (i.e., protocol) for the evaluation of the DNA data, and to 3) verify the accuracy of and consistent use of the protocol by DNA analysts within the FSSP.

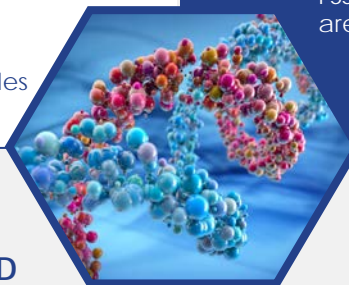
This document establishes requirements for achieving 2) when used in conjunction with ANSI/ASB 018, 1st Ed., 2020 which provides requirements for 1) and 3).

WHY IS THIS STANDARD IMPORTANT? WHAT ARE ITS BENEFITS?

This standard provides requirements for the reliable and consistent evaluation of DNA test results.

This is achieved through the use of written protocols directly based upon appropriate foundational experiments (termed validation studies) conducted on various DNA samples containing mixtures of DNA from several individuals and formal verification of the use of the protocol within the FSSP.

FSSPs performing forensic DNA testing are encouraged to meet this standard.



HOW IS THIS STANDARD USED, AND WHAT ARE ITS KEY ELEMENTS?

The standard provides direction for developing the DNA testing protocol to be used by analysts when evaluating, reporting and testifying to DNA test results obtained from biological samples containing DNA from one or more individuals. The protocol is to be based on, developed from and supported by appropriate foundational validation studies conducted by the FSSP. Once a protocol is written, then a documented process for verifying that the protocol is used appropriately and consistently by analysts generating accurate conclusions from DNA results obtained in forensic casework is to be conducted according to the requirements in ANSI/ASB 018, 1st Ed., 2020.

The specific detailed requirements assist in establishing comprehensive procedures to be used by the analyst when interpreting DNA test results obtained from items of evidence and then comparing those results to the results obtained from known individuals who may be associated with a crime. This standard is to be used in conjunction with ANSI/ASB 020, 1st Ed., 2018 and ANSI/ASB 018, 1st Ed., 2020 if the FSSP is using probabilistic genotyping software. This is a standard of practice. Additional tests beyond those required in the standard may be necessary depending on the testing assays used and the types of evidence tested by the FSSP.

