



E2 Forensic DNA Evidence: Recent Controversies

*William C. Thompson, PhD, JD**, University of California, Irvine, Department of Criminology, Law & Society, Irvine, CA 92697; and *Betty Layne DesPortes, JD**, Benjamin & DesPortes, PO Box 2464, Richmond, VA 23218-2464

After attending this presentation, attendees will be familiar with some recent cases that have generated concerns about the proper analysis, characterization, and use of DNA evidence in the legal system. Reference to specific cases will be used to highlight the various areas in which the interpretation and presentation of DNA evidence can be affected by weaknesses in quality assurance programs, deficient training, and even political pressures.

This presentation will help the forensic community by inspiring discussion of: (1) best practices for quality control and quality assurance, (2) standards for characterizing the results of DNA testing for presentation in the courtroom, (3) proper argumentation about DNA evidence by trial lawyers, and (4) appropriate review of cases by appellate courts and scientific advisory panels.

As DNA analysis takes an ever-increasing prominence in the criminal justice system – both in identifying the guilty and in exonerating the innocent – the need for strict quality control measures has also increased. Instances of quality control lapses and other controversies in the analysis and presentation of DNA evidence have been reported even in laboratories long-regarded as “the best labs in the country.”

In the wake of several well-publicized laboratory scandals across the country, scientific oversight of crime laboratories has become an issue for state legislatures and government agencies. Some states have created separate agencies to provide scientific guidance and empowered to review allegations of misconduct or error. Whether these agencies are functioning as designed, however, remains an issue.

Another subject of much controversy is what corrective or remedial actions are necessary when quality control lapses or misinterpretation are discovered in crime laboratories. The proper role of accrediting agencies in auditing or reporting scientific protocol or interpretation lapses factors into this discussion.

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Using recent cases as examples, the speakers will discuss issues that have recently generated controversy in the criminal justice system, focusing on how the initial test results were characterized in laboratory reports and later presented in court. Issues related to interpretation of low-level results and incomplete DNA profiles, use and interpretation of scientific controls, statistical characterization of results (including use and misuse of likelihood ratios), and argumentation by lawyers about the meaning and significance of test results will be discussed. The panelists will also discuss post-conviction test results, post-conviction destruction of evidence, appellate review, and review of the results by scientific advisory panels. The discussion will reveal how controversy over DNA testing can arise even in a state that claims to be at the forefront of DNA testing. The primary focus, however, will be on the development of better practices and procedures that can reduce the likelihood of problems in any laboratory system and assure better use of results in any jurisdiction. The presentation is intended to emphasize the need to remain vigilant in maintaining the integrity of the forensic science community. If forensic evidence is not objectively tested, analyzed, and interpreted by adequately trained forensic scientists, the search for the truth will be compromised, if not defeated.

DNA, Legal, Interpretation