Genetic Witness: Forensic Uses of DNA Tests

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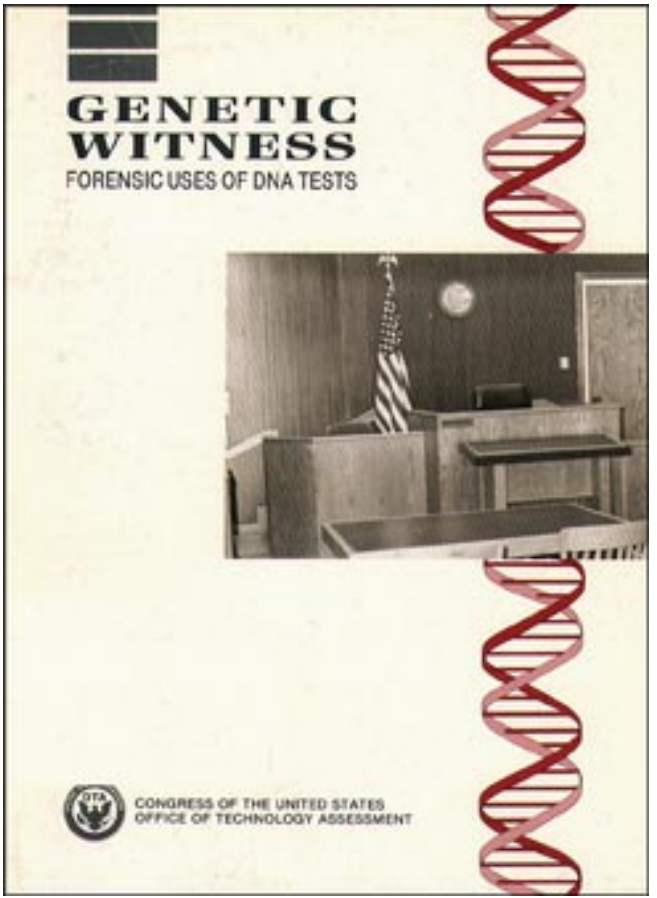

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Foreword

Many criminal and civil trials revolve around scientific evidence, but rarely does such evidence elicit the response received by DNA tests. Since November 1987, when a Florida criminal conviction based on DNA typing received national attention, interest in using DNA tests in crime laboratories throughout the country has soared, as have civil liberties concerns. Although forensic applications of DNA analysis involve technologies familiar in biological research laboratories and clinical practice, their transfer to forensic laboratories and the courts has just begun. This relatively quick movement of DNA typing into a public arena with life and death consequences, and its continuing, rapid evolution, spurred congressional interest in forensic DNA analysis.

Genetic Witness: Forensic Uses of DNA Tests was requested by the Senate Committee on Labor and Human Resources. It illustrates a range of options for action by the U.S. Congress on five policy issues:

. standards for forensic uses of DNA typing;

• funding of crime laboratories, forensic personnel training, and forensic research;

. the advisability of establishing computer databanks of DNA test results;

. standardization of DNA analysis for improved data collection; and

. privacy considerations of collecting, using, and storing DNA data or samples.

In gathering information for this study, OTA staff visited public and private laboratories in seven States and the District of Columbia. Hundreds of individuals representing the array of scientific, legal, and ethical interests assessed by this report cooperated with OTA through interviews, by providing written material, and by critiquing initial drafts. OTA prepared this report with the assistance of a panel of advisors and reviewers selected for their expertise and diverse points of view on the issues covered by the assessment. These authorities were drawn from academia, industry, and professional societies, as well as Federal, State, and local agencies. They included members of the scientific, law enforcement, forensic, and legal communities. OTA gratefully acknowledges the contribution of each of these individuals; as with all OTA reports, responsibility for the content is OTA's alone.

Highly touted initially and formerly used with limited scrutiny, DNA tests are now being subjected to closer inspection by scientific, legal, and law enforcement experts. Today's debate focuses on what standards and additional quality control may need to be used in forensic DNA testing, but no scientific doubt remains that technologies already available can accurately detect genetic differences between humans. Recombinant DNA technologies are new, powerful tools to clear the innocent and convict the guilty.

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NOTE: OTA appreciates and is grateful for the valuable assistance and thoughtful critiques provided by the advisory panel members. The panel does not however, necessarily approve, disapprove, or endorse this report. OTA assumes full responsibility for the report and the accuracy of its contents.

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[1] Through September 1989
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