

## **Application of Forensic DNA Testing in the Legal System**

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DNA technology has taken an irreplaceable position in the field of the forensic sciences. Since 1985, when Peter Gill and Alex Jeffreys first applied DNA technology to forensic problems, to the present, more than 50,000 cases worldwide have been solved through the use of DNA based technology. Although the development of DNA typing in forensic science has been extremely rapid, today we are witnessing a new era of DNA technology including automation and miniaturization. In forensic science, DNA analysis has become "the new form of scientific evidence" and has come under public scrutiny and the demand to show competence. More and more courts admit the DNA based evidence. We believe that in the near future this technology will be generally accepted in the legal system. There are two main applications of DNA analysis in forensic medicine: criminal investigation and paternity testing. In this article we present background information on DNA, human genetics, and the application of DNA analysis to legal problems, as well as the commonly applied respective mathematics.

Key words: anthropology, forensic; DNA fingerprinting; forensic medicine; fragment length; jurisprudence; legal medicine; minisatellite repeats; paternity; polymerase chain reaction; polymorphism, restriction