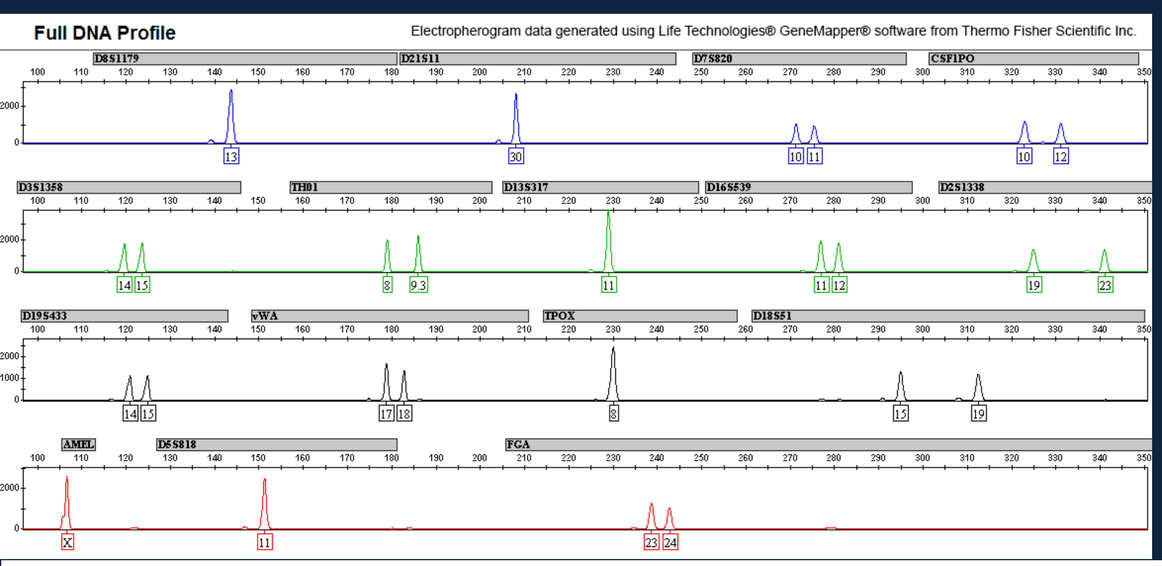
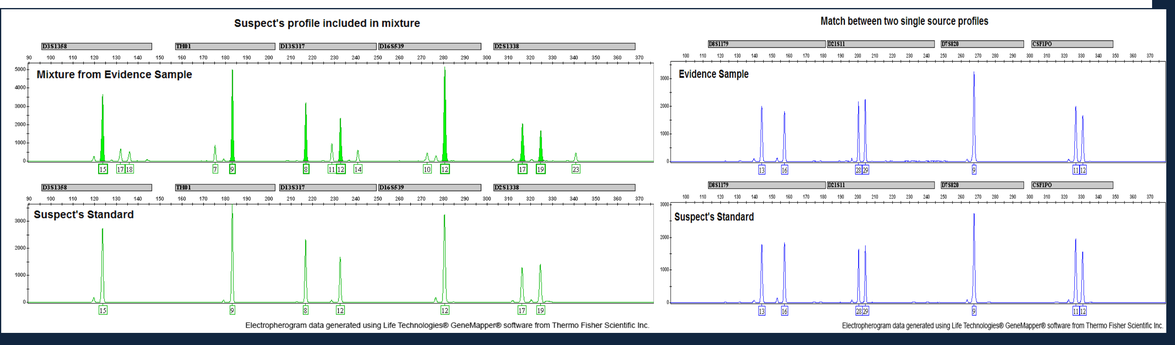
Forensic DNA Analysis

DNA profiling (also called DNA fingerprinting) is the process of determining an individual's DNA characteristics, which are as unique as fingerprints. DNA analysis intended to identify a species, rather than an individual, is called DNA barcoding.

DNA PROFILES





Most DNA samples submitted to a laboratory undergo the following process:

Extraction is the process of releasing the DNA from the cell.

Quantitation is the process of determining how much DNA you have.

Amplification is the process of producing multiple copies of the DNA in order to characterize it.

Separation is the process of separating amplified DNA product to permit subsequent identification.

Analysis & Interpretation is the process of quantitatively and qualitatively comparing DNA evidence samples to known DNA profiles

Quality Assurance is the process of reviewing analyst reports for technical accuracy.

DNA profiling is a forensic technique in criminal investigations, comparing criminal suspects' profiles to DNA evidence so as to assess the likelihood of their involvement in the crime. It is also used in parentage testing, to establish immigration eligibility, and in genealogical and medical research. DNA profiling has also been used in the study of animal and plant populations in the fields of zoology, botany, and agriculture

Polymerase Chain Reaction (PCR)

Polymerase Chain Reaction (PCR) is a technique which allows for the exponential amplification of DNA fragments to lengths of approximately 10,000 base pairs. This allows minute and degraded samples to be used in analysis and takes only a short period of time.