

Some of the new interesting discoveries in forensic genetics

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Some of the main challenges of forensic genetics are the analysis of degraded DNA and the search for new interesting biomolecules and research areas such as miRNA bases forensic applications. Identification and parentage analysis from samples containing degraded DNA has been significantly improved thanks to the development of STR multiplexes including many STR in miniSTR format, new STR loci recently included in the main DNA databases, and the usage of more sensitive fluorochromes. In addition, some of these reactions have been specifically designed to be used separately or in combination, thus providing genetic profiles of higher power of discrimination. MiRNA molecules analysis constitutes a revolution in Biomedicine and it represents also a promising area of study in forensic sciences due to its small size, high resistance against degradation and informativity as well as the high throughput technology developed for its analysis. Up to date, it has been used to identify the biological origin of different tissues. Likewise, it has been proposed its potential application as biological black box to determine forensic variables such as time of death or environmental light intensity in death moment.

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