

SETTING THE THRESHOLDS IN THE FORENSIC DNA LABORATORY WEIGHS A RISK: A PRELIMINARY STUDY

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The most recent releases of the standards to which the forensic DNA laboratory refers to the management of the quality of the process management (ISO 9001: 2015) and of the test activity (ISO 17025: 2017) are characterized by the request to the laboratories of introduce a methodology for risk and management assessment in terms of risks / opportunities.

Our laboratory, characterized by a high throughput associated with the variety and complexity of the judicial cases faced, was the protagonist of a work of internal validation of the test methods that has few equals in terms of quantity and quality of extraction chemicals, quantification, PCR and CE for which the possibilities and limits of analytical performance have been explored.

Having already set the laboratory management in terms of risk assessment (or in terms of risks / opportunities) for a long time, it has been physiological to deal with the issue of thresholds in terms of risk assessment.

The data of the internal validation were processed using the STRVALIDATOR software which allowed to quickly and rigorously explore the data on the electropherograms.

Here we will compare some results related to the determination of the stochastic thresholds for the PCR / CE chemistries used in the laboratory.

The message is very precise: there are no "magic numbers" waiting to be discovered by the laboratory, but it is the laboratory itself that, by exploring the upper and lower limits of its performance increases awareness of its workflow and generates quality results based on a risk/opportunity strategy.