

**VALIDATION OF THE KIT: POWERPLEX® FUSION AT THE GENETICS LAB,
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Introduction:

Due to the kind of samples analyzed at the lab, it is necessary to use several genetic systems to obtain a genetic profile including the highest possible number of loci. The validation and implementation of the use of PowerPlex® Fusion allows the optimization of the human identification process using DNA regarding the high number of cases and requests from the corresponding authorities received by this lab.

16 samples from oral swabs were used; these samples were typified previously using different genetic systems. The DNA extraction was performed using the Maxwell® instrument, the quantification using the Real time PCR system from Applied Biosystems. In order to determine the detection limit we used four of the typified samples before, performed serial dilutions from the DNA, performed PCR in thermo cyclers 9600, and used the genotypification in the genetic analyzers ABI 3130 y 3130XL following the instructions from the fabricant, Promega.

Using PowerPlex® Fusion the profiles obtained have concordance and are reproducible compared to the other genetic systems.

The detection limit was determined for a concentration of DNA of 125pg. For some samples complete profiles were obtained with DNA concentrations of 62.5 pg.