INTERNAL VALIDATION OF PROMEGA POWERPLEX® 18D SYSTEM ON THE ABI PRISM 310 GENETIC ANALYZER

Espinoza-González, V., González Celedón, S.G.,
Laboratorio de Química y Genética Forense de la Procuraduría del Estado de Michoacán, México

The need to internally validate new technology is an on-going process within the forensic DNA community. Prior to being implemented into a forensic laboratory, a new product used in forensic DNA analysis must be validated internally within each laboratory to ensure the technology generates reliable and reproducible results.

The PowerPlex® 18D System is a multiplex STR system for use in database and paternity testing. This five-color multiplex allows co-amplification of the 13 CODIS loci (D18S51, D21S11, TH01, D3S1358, FGA, TPOX, D8S1179, vWA, CSF1PO, D16S539, D7S820, D13S317, D5S818) plus Amelogenin, Penta E, Penta D, D2S1338 and D19S433.

In our Laboratory, internal validation of the PowerPlex® 18D System Kit was performed on ABI PRISM 310 Genetic Analyzer for use on automated platforms in forensic casework. Various parameters were examined including precision, sensitivity, reproducibility, stutter peak heights, accuracy and stochastic thresholds were tested.

Overall, our validation study has demonstrated that the Promega PowerPlex®18D system provides consistent and robust amplification with a variety of different template challenges, and is suitable for casework implementation in our laboratory. ⌘