VALIDATION STUDIES OF THE ABI 3100 GENETIC ANALYZER FOR CASEWORK APPLICATIONS IN THE FLORIDA DEPARTMENT OF LAW ENFORCEMENT LABORATORY SYSTEM

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We report here the preliminary results from validation studies of the ABI 3100 Genetic Analyzer in three casework laboratories at the Florida Department of Law Enforcement (FDLE). Data for the following parameters were included in the validation study: precision, accuracy, sensitivity, percent stutter, peak height ratios, ability to detect low-level mixtures, injection times, capillary life, and sample carryover. Profiler Plus and CoFiler™Data from three 3100s were compared in order to determine differences in individual performance. The data were also compared with the published results to demonstrate overall performance of the platform when operated in a different laboratory system. Finally, data from the 3100 platforms were compared with data from the ABI 310 platforms currently operating within the FDLE caseworking system in order to identify differences between the two platforms. A general discussion on the transition from the Macintosh to NT system and between the 3100 and 310 platforms is included as a possible guideline for laboratories considering the future use of this platform for casework applications.