APPLIED BIOYSTEMS™ SEQSTUDIO™ GENETIC ANALYZER - A VERSATILE FLUORESCENCE-BASED BENCHTOP CAPILLARY ELECTROPHORESIS SYSTEM ALLOWING FOR BOTH MULTIPLE SEQUENCING AND FRAGMENT ANALYSES

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The Applied Biosystems™ SeqStudio™ Genetic Analyzer is an easy, economic, efficient, and versatile 4-capillary, fluorescence-based benchtop capillary electrophoresis system that delivers gold-standard Sanger sequencing technology and fragment analyses, such as STR assays for HID, with just a simple click. An innovative all-in-one reagent cartridge provides flexibility for users to perform both sequencing and fragment analyses of different chemistries on a single sample plate in the same run. Other key features include a simplified instrument software with an interactive touch screen for ease of plate/sample/run setup and data QC/exporting, instrument setup reduced to minutes with the new cartridge containing all consumables except the cathode buffer, Wi-Fi or wired Ethernet connection as well as USB ports for plate set up and data transfer, consumable usage tracking through radio frequency identification (RFID), and a decreased burden for routine spectral calibrations or manual spatial calibrations. The system also included the optional use of a complimentary SeqStudio Plate Manger Software which is well-suited for both first-time and experienced users to assist with plate and run set-up.
In the present study, we evaluated the performance of the SeqStudio Genetic Analyzer for HID analyses using ten STR kits (GlobalFiler™, GlobalFiler™ Express, YFiler™, YFiler™ Plus, NGM Detect™, NGM Select™, IdentiFiler™ Plus, Huaxia™ Platinum/VeriFiler™ Express, VeriFiler™ Plus, and MiniFiler™). The results demonstrated that the performance of the SeqStudio Genetic Analyzer met HID specifications for sensitivity, sizing precision, sizing accuracy, color balance, reproducibility, repeatability, concordance, stutter, and minor contributor detection in DNA mixtures, and that variation in environmental temperature from 15°C to 30°C had little effect on the performance of the SeqStudio Genetic Analyzer in HID analyses as evaluated with GlobalFiler™ and IdentiFiler™ Plus.