Validation study of the Genophiler® automated data review system

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Genophiler® is a software system that automates the processing of GeneScan® and Genotyper®. It also generates summary genotype tables and reports. Genophiler® performs the same actions that an expert user would employ during the course of a review of forensic DNA testing results with GeneScan® and Genotyper®. Genophiler® reports are generated with a simple set of rules that recognize conditions that are indicative of significant peak height imbalance, alleles that are associated with pull-up, and the presence of more than one contributor to a sample. The validation of this system consisted of a review of 50 cases where STR-DNA profiles were generated and compared to the GeneScan® and Genotyper® output to that presented by Genophiler®. Any reported issues (e.g. significant peak height imbalance) flagged by Genophiler® were also manually validated. Full concordance between the output presented by GeneScan® and Genotyper® and Genophiler® was found. Genophiler® is designed to focus the review on the testing results and to eliminate the need for manual software analysis. In addition, we have an ongoing validation process of comparing the results generated by Genophiler® and those produced by the testing lab in every case we review. This validation study demonstrates that Genophiler® is dependable for the routine evaluation of forensic DNA testing results