DEVELOPMENTAL VALIDATION OF THE STAR Q PUNCH AS AND STAR Q AS INSTRUMENTS FOR HIGH THROUGHPUT PCR SETUP OF QIAGEN'S INVESTIGATOR STR GO! KITS

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Worldwide, criminal justice systems are making increasing use of DNA databases to maximize the impact of DNA profiling in human identification. This has markedly increased the numbers of submissions to these databases and in turn the need for high throughput, automated solutions for processing such large numbers of samples.

To address this requirement QIAGEN has developed automated workflows for reference samples collected on both cards (e.g. FTA) and buccal swabs. These two workflows utilize QIAGEN's Investigator STR GO! Kits and automate sample punching/pre-treatment as well as PCR setup using two new QIAGEN instruments: the STAR Q Punch AS for GEHC easiCollect and Copan NUCLEIC-cards and the STAR Q Swab AS for buccal swabs.

Here we describe the developmental validation of these two high throughput workflows and present data using the Investigator 24plex GO! Kit demonstrating reproducible high quality DNA profiles consistent with standard expected of manual processing. Furthermore, the Investigator 24plex QS Kits comes with an integrated quality control feature, the unique Quality Sensor, which allows the generation of additional, valuable data for performance checks, without affecting PCR performance. It is able to confirm a successful PCR amplification, and to distinguish between the absence of DNA due to improper sampling from a failed PCR amplification. This information can be used to choose the most appropriate rework strategy and streamline the overall workflow for direct amplification with higher first success rates.

This data establishes the STAR Q workflows and Investigator STR GO! Kits as effective solutions for laboratories looking to increase throughput for reference and database samples.