

INTEGENX RAPIDHIT™ 200: A SAMPLE-TO-ANSWER SOLUTION FOR RAPID HUMAN IDENTIFICATION

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Forensic DNA analysis is a powerful tool used by law enforcement, military, and various other governmental agencies to solve crimes, protect citizens, and preserve national security. But oftentimes, the lengthy turnaround time between sample collection and profile generation hinders the true impact this tool can have in contributing to successful and timely outcomes.

The use of DNA as a tactical biometric is now possible as demonstrated by the IntegenX RapidHIT™ 200 DNA profiler. Conventional analysis of DNA samples requires a minimum of 10 hours to complete in a laboratory setting, uses at least \$1.25M in advanced scientific equipment, and is performed by technically trained staff. Furthermore, it can take up to 18 months for conventional labs to deliver the DNA profiles to the requestors based on caseload or facility backlog. The RapidHIT™ 200 DNA system, in contrast, is a simple, easy to use, sample-in/answer-out integrated system operated by non-technical staff. After the user inserts the disposable cartridges which contain all reagents and up to eight samples and initiating the run, no human interaction is necessary from that point. In less than two hours time, the CODIS, LODIS, or other custom database-compatible profiles are generated and available to the requestor. This rapid turnaround time is invaluable for generating leads in a timely manner, remaining in hot pursuit of an assailant, or positively confirming or clearing a detainee as a person of interest.

This presentation will describe how the RapidHIT™ 200 integrates the entire sample handling process after the initial sample swab(s) introduction, through cell lysis, DNA extraction, amplification, separation, and detection using our proprietary and patented technologies. Further described is how the system uses rapid PCR, on-board capillary electrophoresis with laser induced fluorescence detection, and integrated expert data analysis software to automatically produce the complete profile data in less than two hours after sample introduction. The RapidHIT™ 200 has been used to correctly type hundreds of reference swabs in the laboratory, at customer sites, and in the field. It has also been used to correctly type DNA on sampled items/objects, and has successfully completed concordance studies with several “gold standard” reference labs.

The footprint of the instrument is 2'x2'x1', compact enough to be used in an office-setting, airport security area, mobile van, or field-forward military site. IntegenX has taken the RapidHIT™ 200 on the road to conferences, customer sites, and DoD Battle Labs and has proven its capability to aid those whose job it is to ensure security and welfare. The RapidHIT's ability to generate DNA profiles in under two hours leverages the true power of this tool in a way that makes the most difference to those who need it.