

THREE SERIAL BURGLARY CASES SOLVED IN 2 HOURS WITH A RapidHIT®
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In December of 2013 The Richland County Sheriff's Department acquired a RapidHIT® (IntegenX®) for fully automated sample-to-answer STR-based human identification. This system produces a DNA profile utilizing Promega's PowerPlex®16 HS chemistry from a swab or cutting in approximately 90 minutes. During validation, a study was performed to access usable sensitivity of the system for casework evidence samples. Of twenty-eight different samples (drinking straw, gum, puller hair, cigarette butt paper, drink can, steering wheel, door handle, foam cup, bite mark, jacket collar, cell phone et al) only two did not produce usable profiles (both attributable to sampling). Upon completion of validation, the RapidHIT® was approved for casework and the first cases run utilizing this technology were from a possible serial burglar in Richland County, South Carolina. The evidence (2 blood swabs and a blood cutting from a leather pouch) from the scenes and a buccal swab from a suspect was run on a RapidHIT® (IntegenX®) utilizing PowerPlex® 16 HS chemistry under the "Run Other" protocol. Complete (16 of 16 loci) profiles were generated from the evidence from three different cases and the buccal swab from the suspect. The resulting DNA profiles were interpreted after the 2 hour run and the results were communicated to the investigator. The profiles generated from the three different crime scenes matched the suspect. As a result of the DNA results generated with the RapidHIT®, the suspect was arrested and charged with 2nd degree burglary and larceny.