

THE DEVELOPMENT OF TWO NEW QUANTITATION KITS USING REAL-TIME PCR TECHNOLOGY

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Currently, many forensic laboratories use various quantitation assays in order to quantitate their DNA samples in preparation for short tandem repeat (STR) analysis. The quantitation of DNA samples is used in human identification applications to include forensic testing, offender databasing, and paternity testing. Since these quantitation assays are used on a regular basis by forensic laboratories, it is important that they are accurate, reliable, reproducible, and easy to use. Applied Biosystems is developing two human nuclear DNA-specific kits based on the fluorogenic 5' nuclease assay technology. The kits are designed to determine the amount of total amplifiable human DNA and total amplifiable human male DNA. The kits will contain all the reagents necessary for the amplification, detection, and quantitation using an automated sequence detection system.

In this presentation, the design goals of the two kits will be discussed, along with an overview of Real-Time PCR. Also, preliminary results performed at Applied Biosystems for species specificity, precision, mixture samples, and STR analysis will be presented.