

PLEXOR HY[®] HUMAN QUANTITATION KIT PERFORMANCE USING THE BIORAD CFX96 REAL-TIME PCR DETECTION PLATFORM

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The goal of this presentation is to demonstrate the performance of the Plexor HY[®] Kit for quantitation of forensic DNA casework samples on the new BioRad CFX96 Real-Time PCR detection platform.

Clinical Reference Laboratory's validation of the Plexor HY[®] System will demonstrate the published sensitivity of the kit and the reliability of the instrument. The quantitative and qualitative validation data; in accordance with the SWGDAM (Scientific Working Group on DNA Analysis Methods) guidelines and the DAB (DNA Advisory Board) standards will be presented. The validation will also include a comparative study of the BioRad CFX96, Stratagene Mx3005P[®] and ABI 7500 platforms.

The BioRad CFX96 system offers state of the art detection of real-time PCR products for the purposes of human DNA quantification. The innovative technology of this instrument provides for maximal reliability and optimal quantitative results. BioRad has developed an instrument which offers maximum sensitivity and consistent results coupled with the ability to detect five reporter dyes. The CFX96 system uses six independently controlled thermal electric modules which maintain tight temperature uniformity at all points during the qPCR DNA cycle. In addition, the CFX96 illuminates and detects the fluorescence from each well with high sensitivity using a scanning optical shuttle which centers above each well for maximum reproducibility.

The Plexor HY[®] System is an assay that simultaneously quantifies total human and male DNA. Previous studies have found that this kit has proven to be adequately human specific, highly sensitive and can reproduce reliable, consistent results. In addition, the Plexor HY[®] System has been developed with an internal positive PCR control (IPC) which allows an analyst to obtain predictive inhibition of samples. Further, the kit provides utility in the detection of the male portion of a sample. The data generated allows for an autosomal DNA to Male DNA ratio. This data can then be used to determine which STR analysis is the most appropriate for any given sample.

This presentation will impact the forensic community by providing comparative data of forensic casework type samples regarding the validation of additional instrumentation. The focus of this presentation is to broaden the limited equipment platform options available to the forensic community for the quantification of human DNA.