## PERFORMANCE EVALUATION OF THE ForenSeq mtDNA CONTROL REGION SOLUTION

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Massively parallel sequencing (MPS) of human mitochondrial DNA surpasses Sanger technology with regard to labor intensity, reagent quality control and data quantity and quality. These improvements assist forensic samples in the context of criminal and missing persons casework, disaster victim identification and research studies.

The ForenSeq mtDNA Control Region Kit, MiSeq FGx sequencer, and ForenSeq Universal Analysis Software v2 were jointly developed to provide maximum sample performance and variant interrogation of tiled amplicons (<150bp across the control region). A detailed evaluation of this approach to mtDNA analysis will be presented, to include performance with high quality DNA, hair shaft and buccal swab extractions (concordance studies), bone and teeth samples and *in vitro* PCR inhibitor studies. Discussion of the results will consider the assay and software with implications relevant to SWGDAM Mitochondrial DNA Analysis Interpretation Guidelines.