

## **WHOLE MITOCHONDRIAL DNA SEQUENCING FOR HUMAN IDENTIFICATION WITH THE POWERSEQ™ WHOLE MITO SYSTEM**

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The PowerSeq™ Whole Mito System is designed to enable massively parallel sequencing (MPS) of the entire human mitochondrial genome. MPS provides higher throughput, read depth, and a more cost effective method for mitochondrial DNA (mtDNA) analysis compared to Sanger sequencing with capillary electrophoresis. The kit design includes a streamlined format that generates 161 amplicons in a single multiplex reaction and an integrated library prep workflow compatible with sequencing on the Illumina MiSeq or Verogen MiSeq FGx instruments. The small amplicon format with a size range of 92-254 base pairs (167 bp average) enables more efficient amplification from challenging degraded samples where nuclear DNA analysis may be difficult. We found that complete and accurate mitochondrial DNA profiles were generated with as little as 7.8 pg of genomic DNA input.