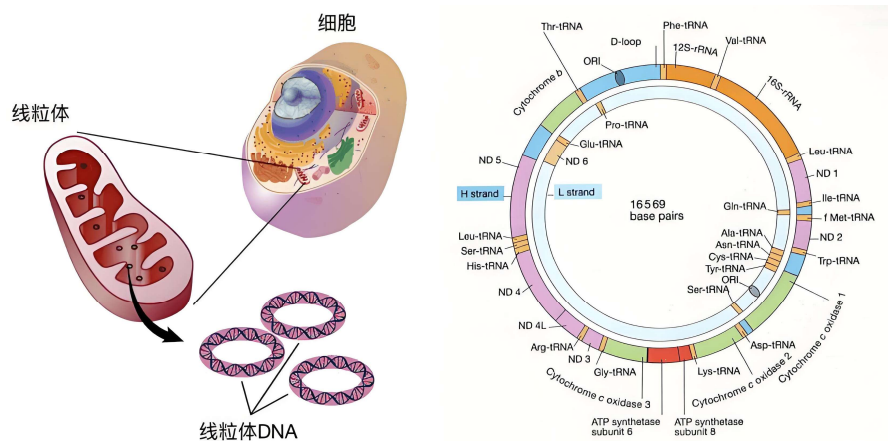


Human Mitochondrial ChrMT Panel Manual

V202210v3

The human mitochondrial genome is a double-stranded circular DNA molecule 16,569 bp in length, containing 37 genes. The Human ChrMT product is based on liquid-phase capture/multiplex PCR technology, which enriches mitochondrial DNA (mtDNA) for high-throughput sequencing to obtain complete mitochondrial genome information. By analyzing sequencing data and considering the maternal inheritance, multi-copy nature, high heterogeneity, and high mutation rate of mtDNA, it helps reveal the pathogenic mechanisms of mitochondrial DNA variations, such as those involved in degenerative diseases, metabolic disorders, genetic diseases, and tumors.

Homgen Biotech Co., Ltd has independently developed, based on proprietary RealCap multiplex targeted capture technology and ProbeCap liquid-phase capture probe design and preparation patents, the Mitochondrial Genome Human ChrMT MIX Multiplex Amplification Kit and the Mitochondrial Genome CHRMT Panel Liquid-Phase Capture Kit solutions. Both allow for obtaining the full-length human mitochondrial DNA genome sequence, meeting customer needs for mitochondrial research and testing.



Human ChrMT MIX Multiplex Amplification Kit Workflow:

Genomic DNA → mtDNA Multiplex Amplification → Magnetic Bead Purification → NGS Library Construction and Index Amplification → Magnetic Bead Purification → NGS Sequencing → Data Analysis

Mitochondrial Genome CHRMT Panel Liquid Phase Capture Kit Workflow:

Genomic DNA → NGS Library Preparation → Hybrid Capture → NGS Sequencing → Data Analysis

The underlined experimental steps have been adapted for Homgen Biotech Co., Ltd LibCap library automation instrument.

Bioinformatics analysis content:

Coverage statistics, mutation site annotation and analysis, mitochondrial circos plot display, heterogeneity site screening, mitochondrial mutation feature correlation analysis, etc.

RealCap® Human ChrMT Mitochondrial Genome Multiplex Amplification Kit

Product specifications

Product Name	Item Number	Specification	Storage	Delivery Time
RealCap® Human ChrMT Kit	M10002	100rxns	-20°C 2 Years	In stock

Usage Method

The RealCap® Human ChrMT Kit consists of a primer pool (Human ChrMT Mix) and a set of multiplex amplification reagents. For detailed experimental procedures, please refer to the HeYin Bio "RealCap ChrMT Mix User Manual - Process Version."

Sequencing Data Requirements: 1000X coverage only requires 30M sequencing data (PE150).

Features: Multiplex amplicon approach: fast library preparation, convenient operation, easy to use, and can obtain the full-length mitochondrial genome at a relatively low cost. Compatible with Homgen Biotech Co., Ltd LibCap library automation workstation.

ProbeCap® Mitochondrial Genome CHRMT Panel Hybridization Capture Kit

Product Specifications

Product Name	Item Number	Specification	Storage	Delivery Time
CHRMT Panel	P10019-96	96 rxns	-20°C 2 Years	In stock

Usage Instructions

The CHRMT Panel consists of a probe pool (Probe) and Homgen® hybrid capture reagent kit.

For detailed experimental procedures, please refer to Homgen Biotech Co., Ltd 's "Probe Hybrid Capture Operation Manual 10X Standard Wash Version For NGS DNA Library" / "Probe Hybrid Capture Operation Manual HS / HE Version For NGS DNA Library" / "LibCap Automated Library Workstation - Hybrid Capture Manual".

Before use, the mitochondrial probe pool (Probe) should be thawed on ice and mixed well. Use 2 µL of Probe per

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reaction (CHRM-T Probe) * as instructed in the manual. POST-PCR basic cycle number: 15

Sequencing data requirements: 1000X coverage only requires 50M sequencing data (PE150), capture efficiency >90%, 0.5X uniformity >98%.

Features: Liquid-phase capture method: data capture is uniform, more mutation information can be obtained, can be used in combination with other panels, and is especially suitable for obtaining full-length mitochondrial genomes from low-quality samples. Compatible with Homgen Biotech Co., Ltd LibCap automated library workstation for library construction and capture.

