Product Information

Product	Configuration	Catalog No.
MGIEasy Exome Capture V5 Probe Set	16 RXN	1000007746
MGIEasy Exome Universal Library Prep Set	16 RXN	1000009657
MGIEasy Exome FS Library Prep Set	16 RXN	1000009658
MGIEasy Exome Capture Accessory Kit	16 RXN	1000007743

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MGIEasy Exome Capture V5 Probe Kit

Product Highlights

- Capture region of more than 69Mb
- More pathogenic targets
- Optimized data utilization
- Stable and efficient capture efficiency

Overview

MGIEasy Exome Capture V5 Probe Kit is designed to cover areas covered by traditional exon probes, in addition to optimized probes targeting reproductive health, neonatal, cardiovascular, cerebrovascular, diseases, and hereditary tumors, as well as genes for monogenic diseases, pharmacogenetics, personalized genomics, hereditary deafness, immunodeficiency, and mitochondrial defects.

Product Specifications

Product Name	MGIEasy Exome Capture V5 Probe Set
Compatible Platform	MGI Series，Illumina Series and Thermo Series
Reaction/kit	16 rxn
Shelf Life	12 Month
Sample Require	1 ug PCR Product
Variation Type	SNP & Indel
SEQ Model	PE100/PE150
Species	Human
Technology	Chip Capture + High-Throughput Sequencing

For Research Use Only. Not for use in diagnostic procedures.

Technical Advantages

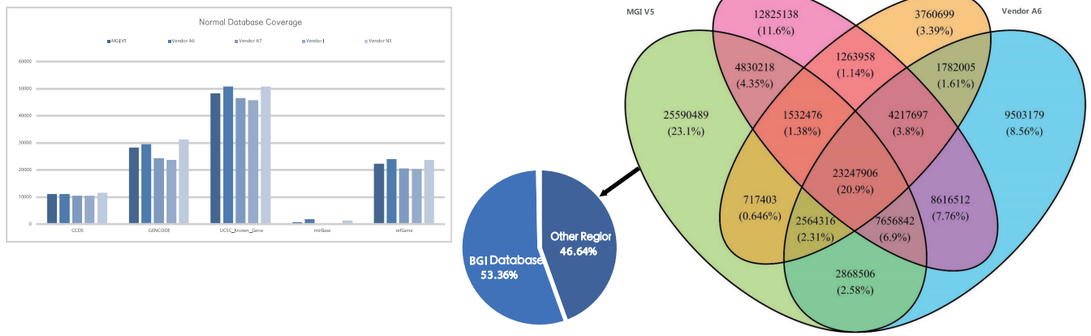

Figure 1 Coverage of CCDS, GENCODE, UCSC, miRBase and RefSeq databases

The MGIEasy exome capture V5 probe is designed to enrich the coding sequences of human protein-encoding genes and miRNA genes. This includes: Ensembl protein encoding genes, RefSeq protein encoding genes, NCBI consensus CDS and miRNA. Annotations were made by NCBI CCDS, UCSC refGene and human miRNAs, with the gene region accounting for more than 50% of the probe region (Figure 1).

Complete Coverage

MGI V5 can cover 455 genes at 100% coverage, much higher than vendor products A5 (125), N3 (33) and I (357). Its unique 100% coverage gene is 160, which is more than A5 and N3 combined. The BBS10 gene is the causative gene of Bardet-Biedl syndrome, and MGI V5 covers the entire exon and intron regions, including known clinical mutation sites reported in the ClinVar database.

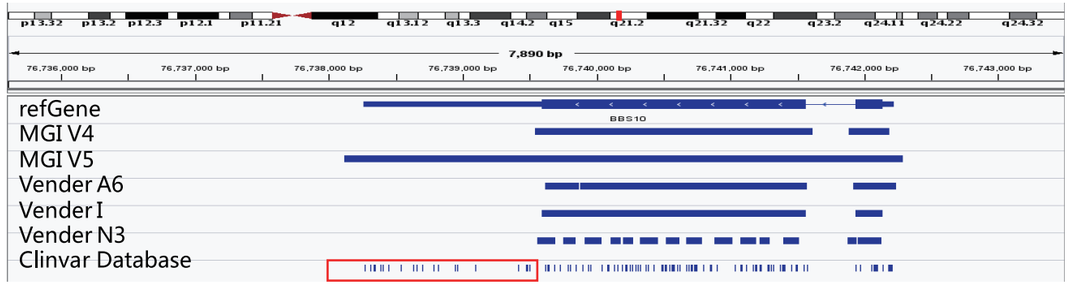

Figure 2 bbs10 gene coverage

100% Coverage of Mitochondria Genome

In addition to excellent coverage of the genome, MGI V5 also achieves 100% coverage of the mitochondria genome and allowing users to obtain more genetic information.

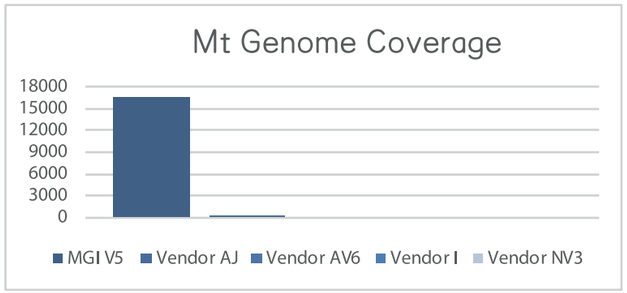

Figure 3 Mt genome coverage

More Uniform Coverage

With a sequencing depth of 100x, 96% of regions can reach coverage of more than 20X.MGI V5 shows better coverage uniformity in areas shared with competing products N3 and I.

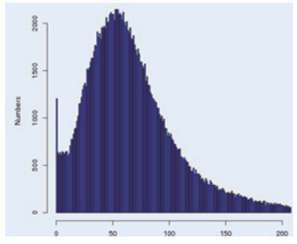

Figure 4: 96% regions with more than 20x

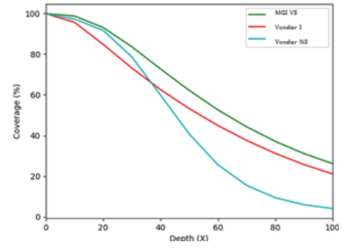

Figure 5: More uniform coverage of shared regions

Performance Comparison

Using the NA12878 standard as a template, library was constructed using the MGIEeasy exome library preparation kit to evaluate the performance of each probe. Thanks to the technical advantages of the MGI sequencing platform, the MGI V5 probe outperforms competing products in terms lower duplication and capture rate over 60% (calculated by reads).

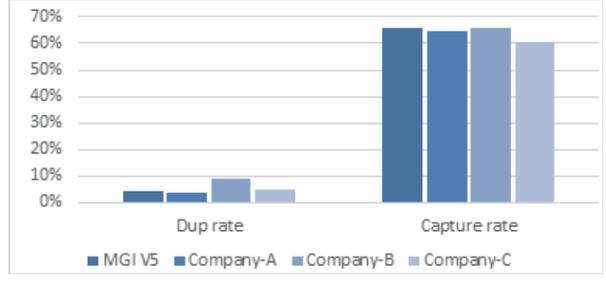

Figure 6 Dupe rates and target area capture efficiency