MGIEasy Exome Capture V4 Probe Set

■ Product Highlights

Region of probe is 59 Mb, more than 20000 gene were covered (refGene)

Deep and comprehensive coverage

Stable and efficient capture efficiency

Compatible with various lib construction schemes and sequencing platforms

■ Overview

MGIEasy Exome Capture V4 Probe Set is the first exome capture product based on Chinese unique genetic background. CCDS、GENCODE、RefSeq、miRBase database are used for the probe design. As a universal exome capture kit, it is compatible with MGIS-EQ/BGISEQ and other NGS platforms.

Product Specifications

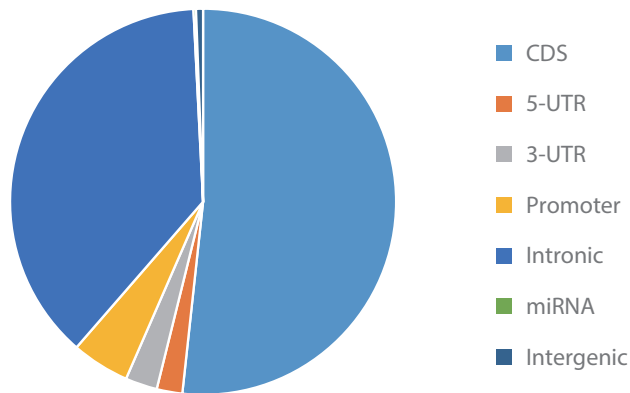|	
Product Name	MGIEasy Exome Capture V4 Probe Set
PN.	1000007745
Compatible Platform	MGI Series，Illumina Series and Life Series
Reaction/kit	16 rxn
Shelf Life	12 Month
Sample require	1 ug PCR Product
Variation Type	SNP & Indel
SEQ model	PE100/PE150
Species	Human
Technology	Chip Capture + NGS

■ Product Performance

Fig. 1 MGI V4 Coverage area type

MGIEasy exome capture probe V4 is used to enrich the coding region of human protein-coding genes and miRNA genes. Consist of: Ensembl protein coding gene，RefSeq protein coding gene CDS in NCBI, miRNA Annotated by NCBI CCDS, UCSC refGene and human miRNA，The gene region accounts for more than 50% of the probe region (Fig. 1)。

■ Excellent Database Coverage

In terms of regional design, there is no significant difference between MGI V4, AV6 and NV3 in the conventional database. More than 20,000 genes can be obtained in MGI V4, AV6 and NV3 (fig. 2). However, in the HGMD and ClinVar databases, the MGI V4 probes were able to cover over 97% and 85% of the variation loci (fig. 3), which had an important auxiliary role for disease research and diagnosis.
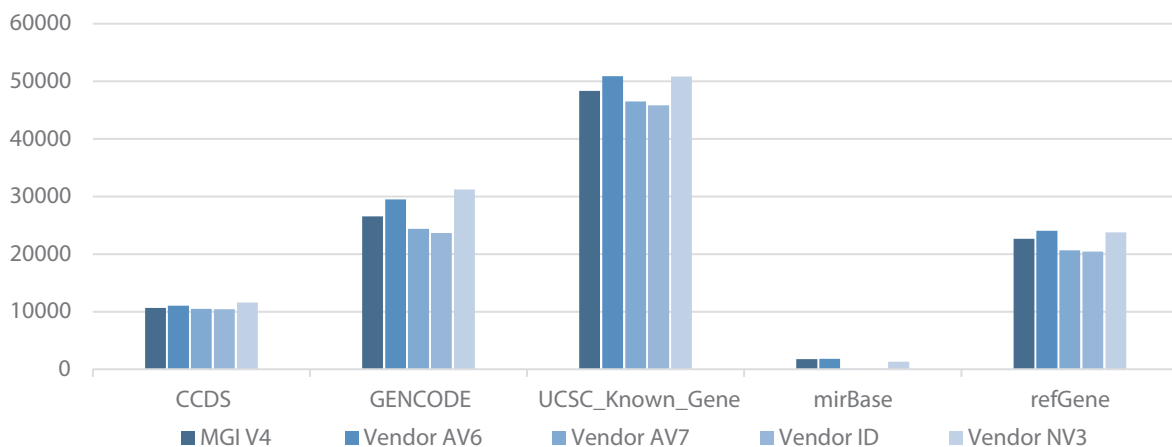

Fig. 2 Gene Number Covered on CCDS、GENCODE、UCSC、miRBase & RefSeq
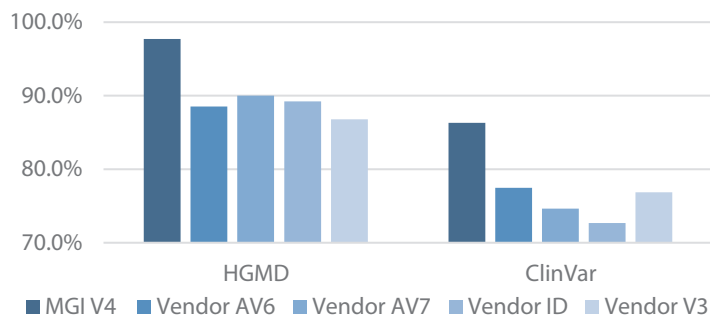
Fig. 3 Percent Targeted Covered on HGMD&ClinVar Database

■ Better Capture Efficiency

For the capture efficiency calculation of different batches of library (based on Reads statistics, excluding flanking sequence), the capture efficiency of MGI V4 probes was greater than 75%, and the data utilization rate was higher than that of competing products (Fig. 4).
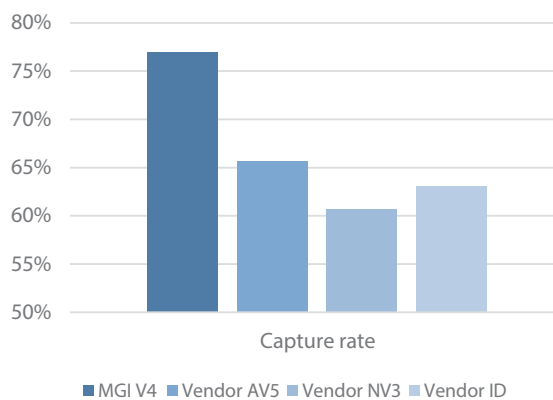

Fig. 4 Percent on Target

■ High Variance Detection Consistency

The NA12878 high confidence interval was selected to evaluate the variation detected by the MGI V4 two experiments. SNP consistency was 99.2% (Fig. 5) and InDel consistency was 87% (Fig. 6), indicating that the V4 probe had good experimental repeatability.
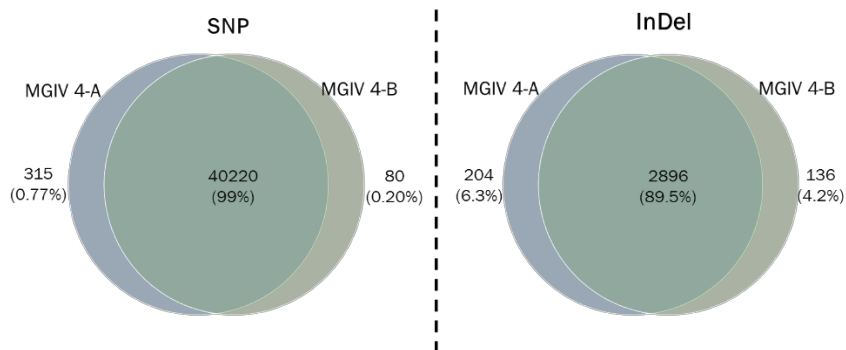

Fig. 5 The Consistency of SNP Detection

Fig. 6 The Consistency of InDel Detection

Product Information

Product	Configuration	Catalog No.
MGIEasy Exome Capture V4 Probe Set	16 RXN	1000007745
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

* for research purposes only

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