Twist Comprehensive Exome Panel

Great performance combined with the most comprehensive content

KEY BENEFITS

More Complete Coverage
- Covers 36.8 Mb of human protein coding regions
- Based on recent database releases

Retain Flexibility
- Easily spike-in content into comprehensive exome panel
- Effective across multiplex target enrichment workflows

Design Efficiency
- The panel targets 36.8 Mb with a design size of only 41.2 Mb
- Smaller design size reduces sequencing costs

Exome sequencing has become a widely used practice in clinics and diagnostics. The superior performance of the Twist Human Core Exome provides the optimal solution for sequencing of protein coding genes, while focusing on the most accurate curated subset—CCDS database. Twist now offers the Twist Comprehensive Exome Panel, expanding the content of the Twist Human Core Exome to offer coverage of greater than 99% of protein coding genes.

Increase Confidence in Your Variant Detection Experiments

Gene definitions are constantly being updated by dedicated consortia such as GENCODE, based on new information from large scale experiments. Thus, panels based on definitions from even several years ago may be missing a considerable portion of genes, and conversely may include some outdated sequences.

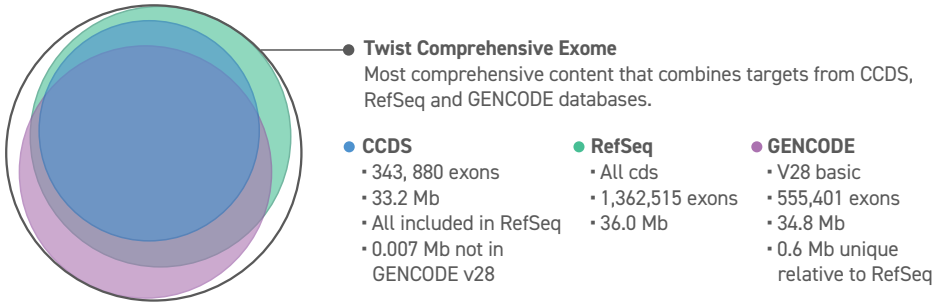

Figure 1. The composition of the Twist Comprehensive Exome panel shows best-in-class coverage at >99% of RefSeq, CCDS, and GENCODE databases.

The Comprehensive Exome Panel targets 36.8 Mb of human protein coding genes, (Figure 1) covering >99% of RefSeq, CCDS, and GENCODE databases. This is best in class coverage of the most up-to-date content, when compared to competitive products (Table 1).

VENDOR	REFSEQ	CCDS20	GENCODE V28
A-1+	91.7 %	92.0%	90.8%
A-2*	95.4%	100%	99.2%
I-1+	98.3%	99.2%	95.9%
Twist Human Core Exome*	91.8%	99.9%	95.2%
Twist Human Comprehensive Exome*	99.2%	99.9%	99.8%

+ Human Genome Version 19
** Human Genome Version 38*

Table 1. Coverage comparison of different databases among several commercially available exomes. This is calculated by overlap between target content versus protein coding exons in databases annotated on primary human genome assembly as of May 2019 UCSC genome browser.

Maximum Sequence Efficiency and Best Coverage Uniformity

Figures 2 and 3 show target coverage and Fold-80 with the Twist Human Core Exome Kit and Twist Comprehensive Exome Panel compared to comparable kits on the market. As seen in both figures, target coverage (>94%) and Fold-80 (1.34–1.36) are far superior using either the Exome only and the Comprehensive Exome Panel compared to other market equivalent kits.

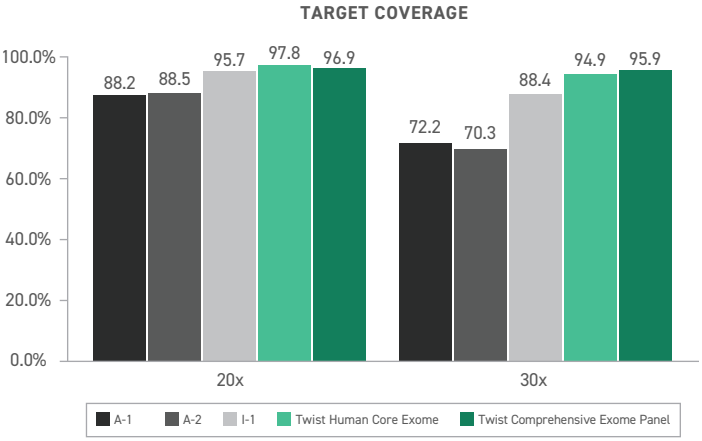

Figure 2. All Samples subsampled to 150x raw sequencing coverage.

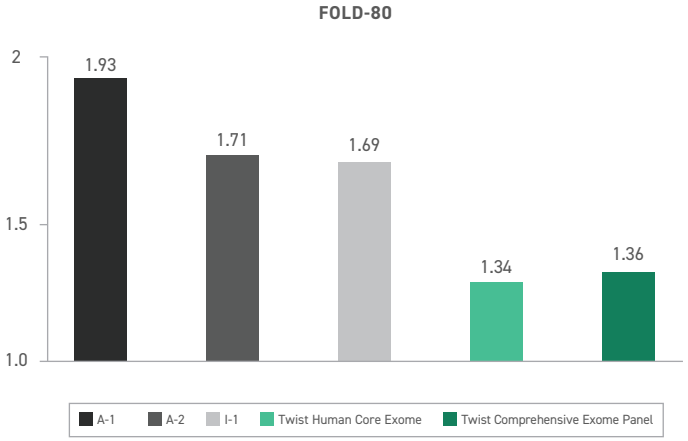

Figure 3. Fold-80 values for various comparable exome kits.

Easy to Add Content Using Twist Target Enrichment

The Twist Comprehensive Exome Panel can be combined with other targets you require, providing flexibility in content while retaining high uniformity.

Figure 4. Twist Comprehensive Exome Kit allows researchers to add additional content or enrich the current content for specific applications.

Twist Human Comprehensive Exome is part of the Twist Bioscience portfolio of products for NGS Target Enrichment.

LEARN MORE

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ORDERING INFORMATION

102031: Twist Comprehensive Exome, 2 Reactions, Kit
Panel for 2 enrichment reactions targeting 36.8 Mb of human protein coding regions

102032: Twist Comprehensive Exome, 12 Reactions, Kit
Panel for 12 enrichment reactions targeting 36.8 Mb of human protein coding regions

102033: Twist Comprehensive Exome, 96 Reactions, Kit
Panel for 96 enrichment reactions targeting 36.8 Mb of human protein coding regions