

TWINE EXOME CAPTURE KIT 1.0

Extensive Exonic Coverage
with Exceptional Performance

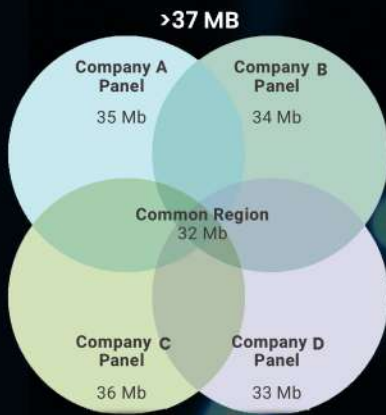
Key Features

- Complete Whole Exome Coverage
- Rapid Single Day Workflow
- No Need of Heavy Instruments
- FASTQ to Clinical Interpretation Capability

TWINE Whole Exome Sequencing Panel v1.0

What differentiates the TWINE Whole Exome Sequencing Panel from other WES panels in the market? Most researchers look for complete coverage especially when it comes to WES. However, most WES panels in the market vary in their target regions and some compromise with coverage, even deleting hard-to-capture regions in order to enhance performance. Bencos Healthcare has developed a WES panel that covers the regions of all major WES panels in the market, spanning the coding regions from RefSeq, CCDS and GENCODE. The TWINE WES Panel provides the most comprehensive coverage of protein-coding regions, thereby enabling marker discovery to diagnostics.

TWINE WES Panel



The TWINE WES Panel covers a target region of >37 Mb, encompassing all the regions covered by comparable WES panels in the market. Leveraging our proprietary probe design technology, we include challenging sequencing regions such as GC-rich and repetitive sequences within the target region, while maintaining high sequencing performance. Our panel stands among the top-performing panels in the market, providing complete nucleotide sequence information of the protein-coding regions.

Covered region	CCDS, RefSeq, Genecode	
Target size	> 37 Mb	
Multiplexing option	8 Plex enrichment	
Platform	Illumina, Thermo Fisher, and MGI	
Uniformity	gDNA	FFPE
	> 96%	> 95%
On-target	gDNA	FFPE
	> 90%	> 90%

Kit Components	Storage Temperature
Library preparation Box #1 (EP kit)	-20°C
Library preparation Box #2 (UDI)	-20°C
Target Capture Solution Box #1	-20°C
Target Capture Solution Box #3	-80°C
Enz Polymerase	-20°C
Target Capture Solution Box #2	RT (room temperature)
Mag Streptavidin Bead	4°C
Mag Clean-up bead	4°C

Simple Gene Add-on Customization

Flexible customization with Gene Add-on Service

The TWINE WES Panel offers the Gene Add-on Service, which allows for the expansion of the panel. Areas such as introns and mitochondria, which are typically not sequenced as part of standard WES panels in the market, can be included through the Gene Add-on Service, in addition to the core TWINE WES panel. Bencos Healthcare has extensive experience in designing and developing custom Target Enrichment panels. As a company capable of manufacturing Target Enrichment panels, we have the expertise to expand the target region without compromising the performance of the panel. Whether it's introns, mitochondria, or any other region of interest that falls outside the default analysis range, we can incorporate those regions into the panel through target region expansion, enabling sequencing and analysis. We are committed to meeting the exact requirements of our customers and delivering panels with enhanced value.



Target Gene Selection

Gene Add-On Service



Elaborate Design of the Capture Probe

Integration of Bencos Healthcare technologies for the best panel performance

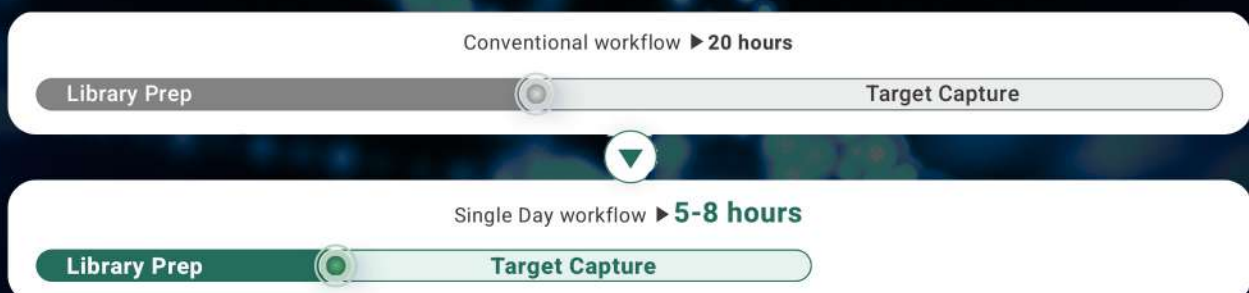


Synthesis of The Capture Probe

Advanced technology for probe synthesis and reagent optimization

Rapid Single Day Workflow

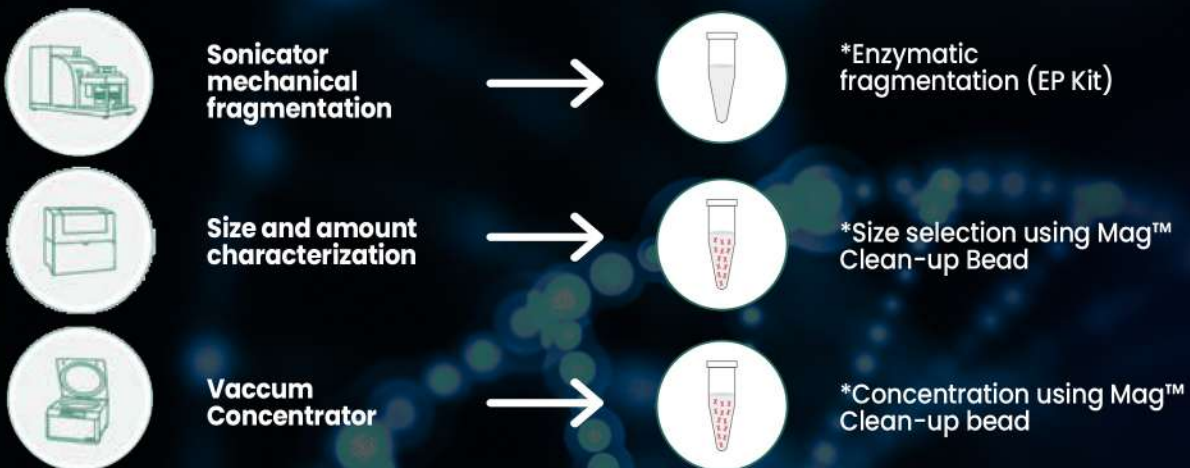
The Hybridization capture method offers the advantage of stable and reliable results. However, it is known for its complex experimental process and longer turnaround time. With the TWINE WES Panel, what used to take more than 20 hours can be completed within 8 hours, allowing researchers to initiate NGS sequencing on the single day as the experiment. This accelerated turnaround time enables faster access to sequencing data, accelerating research and discovery processes.



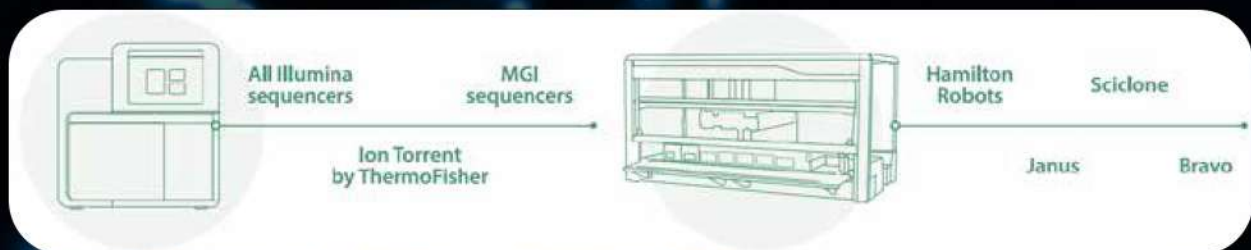
No Need of Heavy Instruments

In order to perform Library Preparation prior to Target Enrichment and Sequencing, it is often required to have heavy instruments (such as vacuum concentrator or sonicator, etc.), which are barriers against complete automation. Even with an automation protocol, using these heavy instruments is inevitable and is often burdensome to the users. Bencos Healthcare has successfully eliminated the need for heavy instruments by substituting them with a more convenient solution of enzymes and beads. After rigorous validation that consistently showed reliable performance, we have optimized this workflow to enable the benefit of a complete walkaway solution.

Replace the heavy instruments with:



Flexible Integration with NGS Sequencers & Complete Walkaway Automation



The Twine WES panel is seamlessly integrated with all NGS instruments from Illumina, MGI, and Thermo Fisher. Since there are no heavy instruments required, the experiment can be carried out with complete automation.

Simplify your workflow with alternative methods for sample shearing, concentrating, and even QC and expedite your exome sequencing without compromising data quality.

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