

# Whole Exome Sequencing (WES) with Twist

Exome sequencing is an indefinite idea that is getting a proper definition with IAB.

## Introduction

Whole Exome Sequencing (WES) is a cost-effective approach to genome profiling that targets the functional part of the genome. Although the exact content of the exome for WES analysis is not broadly agreed upon, IAB provides a universal and fully customisable WES for anyone.

The long-term fruitful collaboration of IAB with Twist Bioscience brings to IAB customers an exceptionally effective targeted NGS solution.

## Methods

Twist Bioscience hybridisation capture technology for WES became globally appreciated for reliable NGS library preparation chemistry and unrivalled capture probe design that is widely used also by Twist competitors. Twist workflow reliably processes even complicated and low-amount samples like FFPE DNA isolates or ctDNA. Therefore, Twist technology is commonly used in oncology research and diagnostics, allowing for rare variants detection thanks to the optional Twist UMI adaptor system. The capture probes design effectively select only the targeted regions with a minimum of unspecific sequences.

With IAB, anyone can scale the Twist probe panel from a few genes up to an augmented exome panel. The customisation is unlimited. Moreover, IAB scales also the workflow throughput offering full automation and accurate data analysis, including copy number variation (CNV).

	Competitor A	Competitor I	Competitor K	Twist
Target Territory (MB)	35.13	34.14	35.8	36.5
Sequencing Required for >80% of panel at 50x mean coverage	10.1 GB	7.70 Gb	7.70 Gb	6 Gb
% additional sequencing	40%	23%	23%	--

**Savings of \$24-\$59 per sample**

Besides the market-leading and the most cost-effective Twist Exome 2.0, knowledge-based exome panels designed by independent experts for specific purposes are available. E.g.: VCGS Exome panel (Victorian Clinical Genetics Services), Clinical Research Exome and Canine Exome (BROAD institute), Hereditary Cancer and Rare Diseases panel (Centogene).

## Conclusions

In collaboration with Twist Bioscience, IAB brings the most advanced WES solution on the market. The respected institutions mentioned above are the proof.