

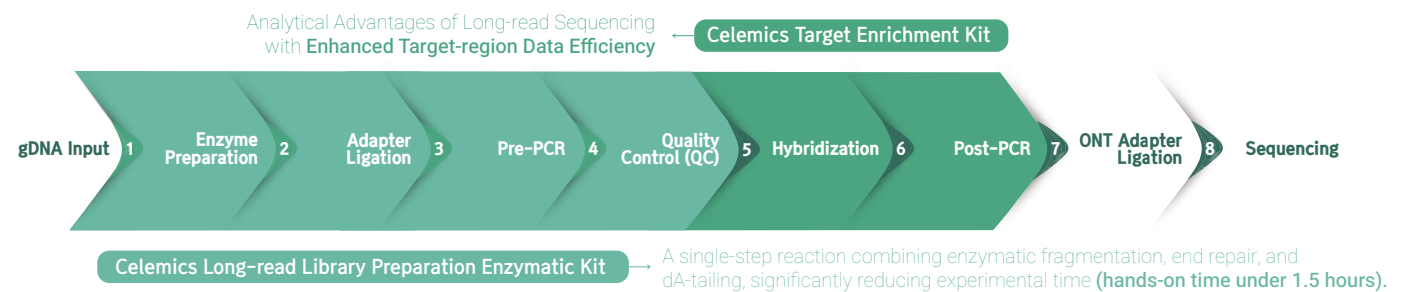
for ONT Sequencing Platform Users

# Celemics Targeted Sequencing Workflow

Celemics Provides an Optimized Workflow from Library Preparation to Target Enrichment Designed to Fully Leverage the Analytical Strengths of Oxford Nanopore-based Long-read Sequencing in Targeted Sequencing applications.

- ✔ Accurate Structural Variant Detection and Full-length Gene Analysis Enabled by Long-read Sequencing.
- ✔ ONT-optimized Workflow from Library Preparation through Target Enrichment.
- ✔ Enhanced per-sample Sequencing Cost Efficiency Enabled by Selective Target Enrichment and Multiplexing on a Single ONT Flow Cell.
- ✔ High Reproducibility with Enhanced Target-region Data Efficiency.

## Celemics Workflow Compatible with the Oxford Nanopore Platform



## Representative Long-read Use Cases | Targeted sequencing applications where long-read sequencing is essential

<b>BRCA1 / BRCA2</b>	Full-length Gene Coverage
	Robust analysis of repetitive regions and large genomic rearrangements
<b>ERBB2 (HER2)</b>	Copy number variation (CNV) and structural variant analysis
	High-resolution structural analysis based on long-read sequencing
<b>Pharmacogenomics</b>	Analysis of highly polymorphic and structurally complex genomic regions, including CYP gene families
	Accurate genotyping enabled by allele phasing

### [Long-read Analysis for Pharmacogenomics Targets with Complex Genomic Structures]

Pharmacogenomics-related genes such as GSTM1, CYP3A4, CYP2A6, and CYP2D6 exhibit complex genomic features, including gene deletions, copy number variations (CNVs), high sequence homology, and structural variants. ONT-based long-read sequencing enables full-length gene analysis, haplotype phasing, and highly confident allele calling in these complex genomic regions, effectively overcoming the limitations of short-read based approaches.



Figure. Long-read Targeted Sequencing Data for Pharmacogenomics Genes Using Celemics Pharmacogenomics Panel.

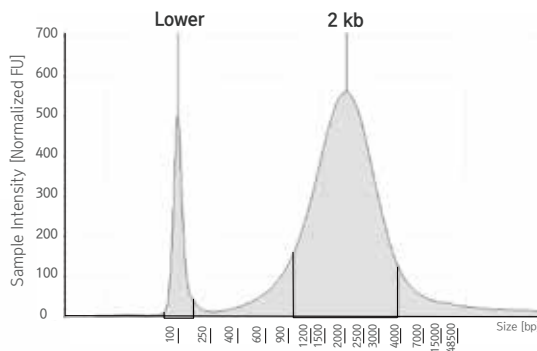
# for ONT Long-read Targeted Sequencing Celemics Product Portfolio

Celemics delivers high-quality library preparation and target enrichment solutions for ONT long-read targeted sequencing, supporting complex genomic analyses with improved data efficiency.

## Library Preparation Kit for Long-read Analysis

- ✓ Enzymatic fragmentation-based workflow
- ✓ Enables generation of ~2 kb libraries
- ✓ Supports Illumina Adapter and Index-based library construction  
\*Design library handles that are fully compatible with Illumina workflows
- ✓ Provides software guidance for Illumina Index-based demultiplexing after Nanopore Sequencing

ONT Long-read Library Preparation  
QC Data Example (TapeStation)



## Target Enrichment Kit for Data Efficiency in Target Regions

- ✓ Optimized for complex genomic regions, enabling high analytical performance even in homologous and repetitive regions.
- ✓ Enhances per-sample sequencing cost efficiency through selective target enrichment and multiplexing on a single ONT flow cell \*Multiplexing of up to 96 samples supported
- ✓ Supports haplotyping and allele-level analysis, as multiple variants can be captured within a single read.
- ✓ Improves data efficiency for target regions while maintaining the analytical advantages of long-read sequencing.

## Custom Panel for Targeted Research Applications

- ✓ Flexible design tailored to target genes, configurations, and research objectives.
- ✓ Scalable application plans aligned with project stage. (Pilot to expansion)
- ✓ Covers BRCA1/2 Large Deletions, Large Rearrangements, and Homologous Regions.
- ✓ Enables accurate variant identification in pharmacogenomics genes with high pseudogene homology, where short-read sequencing has limitations.

## Order Information

Library Preparation Kit for ONT Platform

Cat. No.	Product Description	Product Unit (Samples)
XEXS016/032/048/096	ONT; Library Prep Kit; UDI; Short Adapter	16 / 32 / 48 / 96

Target Enrichment Kit for ONT Platform

Cat. No.	Product Description	Product Unit (Samples)
WEXS.HX.ES16/96	Celemics WES Panel; ONT; Target Enrichment Kit;	16 / 96
CCDS.HX.ES16/96	CancerScreen Comprehensive DNA Panel; ONT; Target Enrichment Kit;	
ONCS.HX.ES16/96	OncoRisk Panel; ONT; Target Enrichment Kit;	
PHSS.HX.ES16/96	PharmacoScreen Standard Panel; ONT; Target Enrichment Kit;	
CUSS.HX.ES16/96	Customized Panel; ONT; Target Enrichment Kit;	



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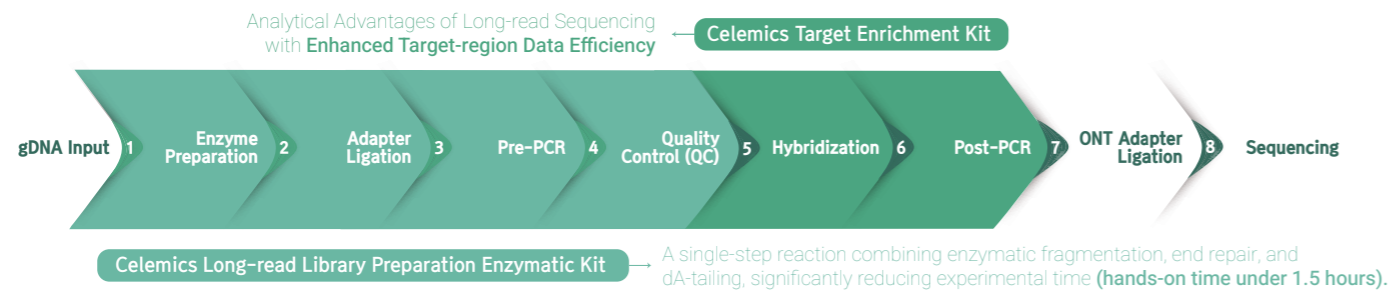
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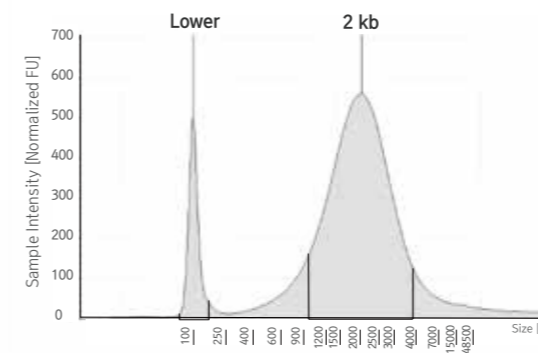
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