



myBaits®



myBaits®  
EXPERT PANEL

Wheat Exome

# Wheat Exome NGS Enrichment Panel from IWGSC RefSeq

## OVERVIEW

The new **myBaits® Expert Wheat Exome** capture panel targets the complete high-confidence exon-annotated genome in hexaploid wheat. Developed in collaboration with the International Wheat Genome Sequencing Consortium (IWGSC) using their recently-released genome assembly and annotation set of Chinese Spring, the wheat exome capture kit enables comprehensive, uniform, and reliably deep coverage of over 250 megabases of CDS and CDS-proximate regions of the greater than 15 GB *Triticum aestivum* genome. This panel, containing more than 2 million probes, was designed using a window-based optimized hybridization dynamics algorithm, and further refined through evaluation in multiple experimental field trials. The panel saves the exome-focused researcher orders of magnitude in sequencing and analysis costs compared to whole genome sequencing, and fits seamlessly between virtually all library preparation chemistries and sequencing platforms.

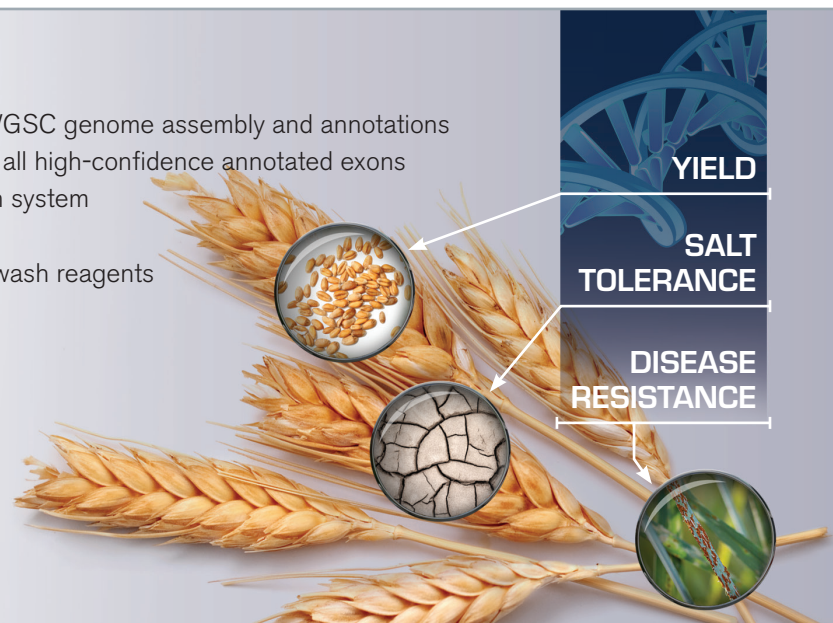
The wheat exome panel is provided as a complete in-solution target capture kit including buffers, blockers, and baits, along with an easy-to-use protocol. Alternatively, the myReads® NGS service team at Arbor Biosciences is available to perform library preparation, target capture, and sequencing for your entire project.

## FEATURES & BENEFITS

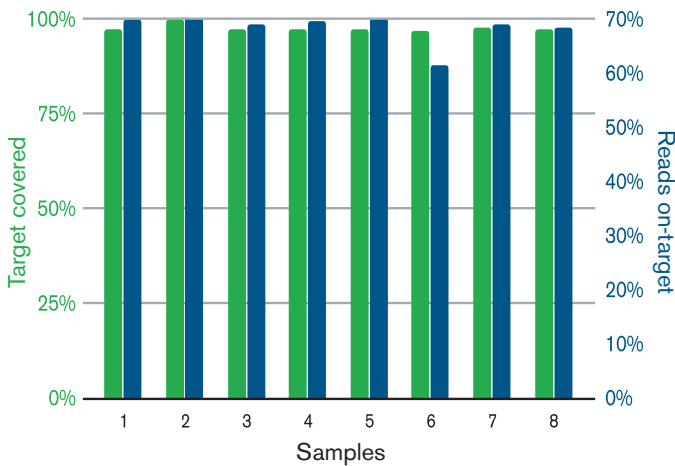
- Curated Reference Genome** – Probes designed using the IWGSC genome assembly and annotations
- Comprehensive** – Targets 250 Mbp genomic space including all high-confidence annotated exons
- Open Platform** – Compatible with any NGS library preparation system
- Simple Protocol** – Perfect for new or expert NGS users
- Complete Solution** – Convenient kits include hybridization & wash reagents

## APPLICATIONS

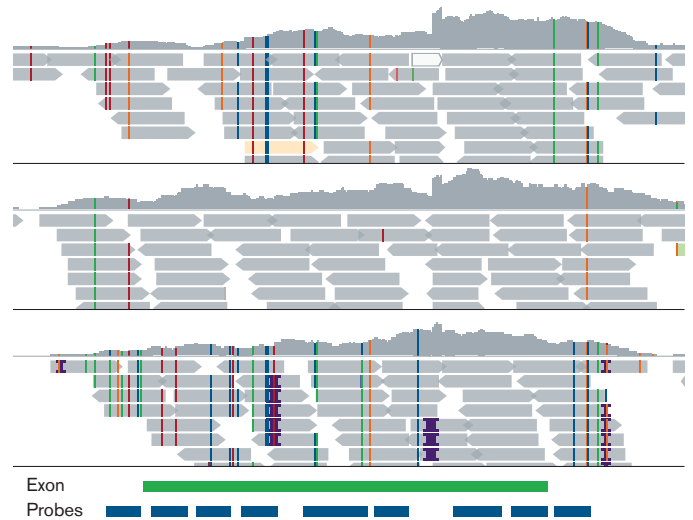
- Exon Sequencing
- Trait Improvement
- Strain Genotyping
- Variant Discovery
- Association Genetics



## PERFORMANCE DATA



**Fig 1. Target coverage (left, green) and reads on-target (right, blue) for 8 cultivar samples captured in a single reaction.** With only ~18Gbp sequencing effort per sample, the Wheat Exome v1 kit consistently provides an average 34X unique read coverage across >200 Mbp of target space, overlapping >95% of the IWGSC v1.1 high-confidence exon annotations. Data processed in Curio Genomics.



**Fig 2. Divergent Cultivar Coverage from Curio Genomics myBaits chemistry allows highly reproducible coverage across divergent cultivars.** Unique read coverage and polymorphisms in 3 distinct cultivars are shown for the gamma gliadin member 1 gene as analyzed in Curio Genomics.



## COMPREHENSIVE ACROSS CULTIVARS

The myBaits<sup>®</sup> Expert Wheat Exome v1 kit has been experimentally validated on dozens of wheat cultivars, and demonstrated to be both comprehensive as well as SNP- and indel-tolerant in hexaploid and tetraploid varieties.

## NGS SERVICES

The myReads<sup>®</sup> team at Arbor has decades of combined experience in planning and successfully executing a wide variety of NGS target capture projects and is here to assist with your analysis of wheat. Speak with one of our scientists about performing library preparation, target capture, and sequencing of your samples. We also offer an efficient bioinformatics pipeline for analyzing data from this complex genome through a partnership with Curio<sup>®</sup> Genomics.

## ADVANCED WHEAT GENOME ANALYSIS

Leverage the decades of combined NGS experience in the myReads<sup>®</sup> team at Arbor and our partnered solutions with Curio<sup>®</sup> Genomics to take your wheat research further, faster. Arbor scientists are here to assist you in planning, executing and delivering high-quality data from the wheat genome. Speak to us about full service sample processing, from DNA to data generation, including robust informatics analysis of your sequencing data.

The integrated Arbor-Curio solution provides complete sequencing and bioinformatics analysis delivered via a real-time, dynamic online report. Data is delivered in an advanced platform with intuitive visualizations for filtering and selecting targeted chromosomes, regions, or genes for in-depth analysis, interpretation and actionable insight.

## PRODUCT TABLE

Cat. No.	Description	Reactions
309108	myBaits Expert Wheat Exome v1 Enrichment Kit	8
309148	myBaits Expert Wheat Exome v1 Enrichment Kit	48
309196	myBaits Expert Wheat Exome v1 Enrichment Kit	96

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