

Arbor Biosciences and the IWGSC Partner on Wheat Exome

Ann Arbor, Michigan January 14, 2019 – Arbor Biosciences, a worldwide leader in next generation sequencing (NGS) target enrichment and synthetic biology, announces their partnership with the International Wheat Genome Sequencing Consortium (IWGSC), an international organization dedicated to developing a gold-standard reference genome for bread wheat cv. *Chinese Spring*. This strategic partnership will provide IWGSC members with a standardized exome panel for research and development as well as expand Arbor's collaboratively developed myBaits® Expert panels in agrigenomics.

"Our members have been working together since 2005 to generate a gold-standard reference genome for *Chinese Spring*," said Kellye Eversole, Executive Director of the IWGSC. "Partnering with Arbor Biosciences will accelerate research efforts into the inner-workings of this very complex genome."

Sequencing the bread wheat genome was an incredible feat, due to its enormous size – five times larger than the human genome – and complexity – bread wheat has three sub-genomes and more than 85% of the genome is composed of repeated elements. The potential to analyze only the exome, or just the functionally expressed genes, greatly reduces the cost of sequencing each sample and speeds analysis of the resulting data.

Arbor Biosciences is launching the initial myBaits® Expert Wheat Exome capture panel at the International Plant and Animal Genome Conference in San Diego, CA, USA based on the complete high-confidence exon-annotated genome in hexaploid wheat. The partnership with the IWGSC and its members will continue as Arbor plans to develop new iterations of the exome panel with further understanding of the genome as well as panels specific to disease and drought resistance. Additionally, Arbor Biosciences is developing a robust bioinformatics pipeline of the exome in order to streamline data analysis and deliver consistency across the consortium.

"We are proud to develop this wheat exome panel, which can be paired with any library preparation, in conjunction with the IWGSC," explained Jacob Enk, PhD, Senior Scientist at Arbor Biosciences. "The panel will be added to our targeted sequencing services offering for researchers who require a complete solution from DNA to data analysis."

The reference sequence for Chinese Spring was made available to the scientific community in January 2017 and an analysis of the reference sequence was published in the journal *Science* in August 2018. Since the beginning of 2018, more than 250 publications have been published using this resource, yet only a portion of the genome has been manually or functionally annotated with high confidence. Arbor Biosciences and the IWGSC will continue to collaborate with consortium members as well as outside breeders, plant scientists and wheat growers to further define the genome and develop new resources for studying this valuable crop.

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About Arbor Biosciences

Arbor Biosciences is a development and manufacturing company founded by scientists to serve our peers in molecular biology applications. We are a passionate organization of scientists determined to deliver cost-effective, user-friendly products to researchers of genetics and synthetic biology. The team at Arbor Biosciences prides themselves on providing exceptional customer service and timely technical support to new or advanced users on our array of products. We routinely collaborate with our customers and research partners to develop innovative solutions to address their unique applications. Arbor Biosciences was recently acquired by Chiral Technologies, Inc., a part of Daicel Corporation.

About the International Wheat Genome Sequencing Consortium

The IWGSC, with 2,400 members in 68 countries, is an international, collaborative consortium, established in 2005 by a group of wheat growers, plant scientists, and public and private breeders. The goal of the IWGSC is to make a high-quality genome sequence of bread wheat publicly available, in order to lay a foundation for basic research that will enable breeders to develop improved varieties. The IWGSC is a U.S. 501(c)(3) non-profit organization. www.wheatgenome.org

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