Twist Bioscience Launches Human Methylome Panel to Enable Detection of Methylation Fractions in a Diverse Range of Applications

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Panel covers 84.2% of CpG islands

New tool supports discovery of differentially methylated regions and epigenetic target identification for cancer metastasis and human development research

Human methylome panel facilitates development of liquid biopsy panels

SOUTH SAN FRANCISCO, Calif.--(BUSINESS WIRE)--May 31, 2022-- Twist Bioscience Corporation (NASDAQ: TWST), a company enabling customers to succeed through its offering of high-quality synthetic DNA using its silicon platform, today announced the launch of the Twist Human Methylome Panel, a product now available to customers that can advance applications in cancer metastasis, human development and functional genetics. The panel can be used to identify a robust, collated set of CpG sites, methylated cytosine and guanine nucleic bases, across the human genome to identify biologically relevant methylation markers. Compared to traditional array based or whole genome bisulfite sequencing approaches, this panel provides overall cost savings while also covering previously unknown methylation markers. The Twist Human Methylome Panel can also be used as a first pass discovery tool to identify methylation biomarkers that can then be used in a variety of applications, such as more targeted liquid biopsy panels.

The DNA methylome is the comprehensive set of nucleotides within the genome that have a methyl group attached. DNA methylation plays a key role in many biological processes, including cancer. When present on a single nucleotide, a methyl group can alter genetic behavior without changing the DNA sequence. Analyzing the pattern in which methylation occurs within a specific genetic sequence as well as the fraction of the genome that has a methyl group attached (methylated) provides a unique understanding of disease pathology. CpG sites, which often repeat to create CpG islands, turn a gene “on” or “off” and are associated with neurodegeneration, cancer and multiple rare diseases. Detection of CpG islands therefore can inform diagnoses or development stage of multiple diseases.

The Twist Human Methylome Panel is highly targeted to capture and detect the most recently identified and relevant CpG methylation regions in the genome. Twist uses hybrid capture panels to explore the methylome and the content that can be investigated to include 84.2% of CpG islands as well as other CpG sites.

“With the customizable Twist Human Methylome Panel, we are able to cover four times the amount of CpG sites compared to average microarrays. Using our NGS-based panel provides a higher dynamic range, allowing more accurate identification of differentially methylated regions, which we believe will enhance research-based assays and diagnostic tests that incorporate this dynamic tool,” said Emily M. Leproust, Ph.D., CEO and co-founder of Twist Bioscience. “Previously, when identifying methylation markers, researchers had to choose between a low-cost, static option or a very expensive panel that covers a significant portion of the methylome, but often more than needed. As technology progresses, the compromise that researchers need to make between cost and coverage becomes less and less.”

“We look forward to expanding our work with Twist as well as extending our epigenomics expertise and offerings to customers by incorporating the Twist Human Methylome Panel into our Epigenomics Profiling Services. This aligns with our efforts to continue offering new solutions to link methylation research with a wide range of disease indications and progression,” said Didier Allaer, CEO of Diagenode, a leading epigenomics company and early access customer for the Twist Human Methylome Panel. “The new panel will enable us to offer a solution with broad coverage of the human methylome and to bring epigenetics research to new frontiers of biomarker discovery on clinical samples.”

About Twist Human Methylome Panel

The Twist Human Methylome Panel enables the identification and study of methylation biomarkers spanning a wide range of targets and applications. The 123 megabase panel covers 84.2% of CpG island sites contained within the human genome and is optimized with the Twist Methylation workflow for robust end-to-end performance. The high capture efficiency increases the sensitivity of detection and internal data show that the Twist Human Methylome Panel achieves a depth of coverage of 90% of bases at 30x coverage with high probe specificities of 95% on-target rates, as well as high uniformity across the target region.

About Twist Bioscience Corporation

Twist Bioscience is a leading and rapidly growing synthetic biology and genomics company that has developed a disruptive DNA synthesis platform to industrialize the engineering of biology. The core of the platform is a proprietary technology that pioneers a new method of manufacturing synthetic DNA by “writing” DNA on a silicon chip. Twist is leveraging its unique technology to manufacture a broad range of synthetic DNA-based products, including synthetic genes, tools for next-generation sequencing (NGS) preparation, and antibody libraries for drug discovery and development. Twist is also pursuing longer-term opportunities in digital data storage in DNA and biologics drug discovery. Twist makes products for use across many industries including healthcare, industrial chemicals, agriculture and academic research.

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Legal Notice Regarding Forward-Looking Statements

This press release contains forward-looking statements, including the potential for the Twist Human Methylome Panel to advance applications in cancer metastasis, human development and functional genetics. All statements other than statements of historical facts contained herein are forward-looking statements reflecting the current beliefs and expectations of management made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements involve known and unknown risks, uncertainties, and other important factors that may cause Twist Bioscience's actual results, performance, or achievements to be materially different from any future results, performance, or achievements expressed or implied by the forward-looking statements. For a description of the risks and uncertainties that could cause actual results to differ from those expressed in these forward-looking statements, as well as risks relating to Twist Bioscience's business in general, see Twist Bioscience's risk factors set forth in Twist Bioscience's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on May 6, 2022 and subsequent filings with the SEC. Any forward-looking statements contained in this press release speak only as of the date hereof, and Twist Bioscience specifically disclaims any obligation to update any forward-looking statement, whether as a result of new information, future events or otherwise.

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Twist Bioscience
Angela Bitting
SVP, Corporate Affairs
925- 202-6211
abitting@twistbioscience.com

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