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Waters collaborates with Singapore's Bioprocessing Technology Institute

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Waters expands collaboration with Bioprocessing Technology Institute, A*STAR into new areas meant to accelerate bioprocessing and bioinformatics research



Waters Corporation has announced an expansion of its joint work with the Bioprocessing Technology Institute (BTI), a research institute of Singapore's Agency for Science, Technology and Research (A*STAR).

Among their new collaborative projects, Waters and BTI have started work on applying analytics that can rapidly identify and visualize complex molecules within glycomics and metabolomics data to help ensure overall safety, accuracy, and speed of biologics manufacturing.

Waters and BTI are engaging in data analytics research meant to eliminate a major bottleneck in the characterization of biopharmaceuticals, namely the identification and quantitation of complex biomolecules such as released N- and O- glycans and metabolites that influence therapeutic function. Isomerism of both glycans and metabolites is particularly troublesome and can be tackled using Waters' advanced instruments.

However, because the data generated is massive, advanced bioinformatics approaches and machine learning techniques are needed to deliver robust and accurate identification for these and other biomolecules to overcome time-consuming and expensive conventional methods and current analytical software that cannot adequately interpret or visualize the data.

As part of the project, Waters will contribute scientific expertise and the use of Watersinstruments including the SYNAPT™ series mass spectrometry system along with a BioAccord™ LC-MS System. The SYNAPT instrument features ion mobility mass spectrometry technology to provide complete characterization of complex compounds and molecules. The BioAccord system can be used to monitor product quality attributes in real time that can affect efficacy and safety of innovator drugs and biosimilars.

"Our work with BTI spans multiple successful collaborations in the realm of glycomics and bioprocessing research," said David Curtin, Vice President of Asia Pacific, Waters Corporation. "They are pioneers in biomanufacturing innovation in Singapore with world-class expertise in bioprocess science and engineering. This work aims to help biotherapeutic manufacturers with at-line or in-line measurements of complex molecules to identify issues quickly during routine production and reduce costs or

frequency of failed batches.”