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Overcoming challenge of data analysis in mass spectrometry

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Singapore: The research and clinical communities are constantly seeking new technologies that provide faster, more accurate, and more sensitive results, according to a research report by Frost & Sullivan. Stemming from these demands are opportunities for innovation and technology improvements, which in turn can result in market success, strong brand reputation, and customer loyalty. Many life sciences technology companies strive to develop new products that deliver many sought-after features while expanding the accessibility of the technology.

Among all the challenges faced by various laboratories and testing bodies, handling and making sense of the vast and highly complex data generated by mass spectrometers can be a constant hurdle. To address this issue, AB SCIEX, a wholly-owned operating unit of Danaher Corporation, which specializes in a variety of mass spectrometry instruments, reagents, and software, recently, introduced the MasterView Software in the market. MasterView Software helps in simplifying compound identification, quantitation, and data review from complex mass spectrometry data files with high speed, power and accuracy.

Previously, in the absence of MasterView Software, lab personnel had to deal with the complexity of large amounts of data, the time-consuming task of manual data review and often expend resources trying to find a technologist highly familiar with mass spectrometry. However, with MasterView, lab personnel can use the software in tandem with accurate mass technology like the TripleTOF 5600+ System or TripleTOF 4600 System to accelerate the process of generating relevant information from complicated data sets and save time.

Mastery of data with MasterView

MasterView is capable of fast, straightforward and intuitive data processing. With a simplified user interface and streamlined workflows, MasterView Software helps users at all levels of expertise master data processing faster, with less rigorous training requirements. With MasterView's ease of use, lab personnel at all levels can quickly learn to utilize it, without the need of a resident mass spectrometry expert. Besides, MasterView has the capabilities to integrate both targeted and non-targeted screening, compound identification, quantitation and reporting in a single software platform to enable users to combine multiple workflows.

MasterView helps reduce data review time and increase laboratory throughput, with automated visual status indicators for both qualitative and quantitative data review. This allows users to investigate results by exception. With MasterView, users can customize their review settings and easily identify how close the acquired data match their library data in mass, retention time, isotope pattern, library MS/MS spectra, and molecular formula with intuitive visual status indicator icons.

Another distinctive feature of MasterView is its ability to integrate seamlessly with AB SCIEX TripleTOF instruments to enable both quality data acquisition and effective data processing. This is designed to reduce false positives or false negatives by providing reliable answers from users' accurate mass MS and MS/MS data files. The ability to acquire quality accurate mass MS and MS/MS information on all peaks detected in your unknown samples is fundamental to ensuring proper compound identification.

Above all, with MasterView, users can revisit and re-evaluate archived data stored in MasterView Software at their fingertip, removing the need for retesting. The new MasterView Software is capable of identifying and quantifying targeted contaminants in food and environmental samples, and detects drugs of abuse in forensic toxicology samples.