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Bio-Techne Expands RNAscope® ISH Automation - Facilitating Drug Discovery and Development

New and updated assays increase application areas and improve performance

MINNEAPOLIS, March 21, 2018 /PRNewswire/ -- Bio-Techne has expanded the automation capabilities of its popular [Advanced Cell Diagnostics \(ACD\)](#)-branded RNAscope® *in situ* hybridization (ISH) technology with the launch of several new and updated assays. The developments increase both access to, and use of, RNAscope and improve overall robustness and ease-of-use. The continued investment in automation builds on successful agreements with equipment providers and is driven by Bio-Techne's desire to facilitate drug discovery and development via rapid, easy, and accurate gene expression detection and localization.

The new RNAscope VS Duplex Kit, developed for the DISCOVERY ULTRA Automated IHC/ISH slide staining systems from Roche, delivers simultaneous *in situ* detection of two RNA species on an automated platform. The assay enables experiments such as co-localization studies and gene expression profiling in specific cell types identifiable with known markers. Such dual staining is notoriously difficult to achieve with traditional ISH and particularly on automated staining systems. However, thanks to our patented signal amplification and background suppression technology, the VS Duplex Assay delivers unrivalled specificity and sensitivity with clean signals - enabling researchers to pinpoint gene expression at single-molecule sensitivity.

Aaron Mercer, Research Scientist in Histology and Imaging at Novo Nordisk commented on the VS Duplex Assay, "After running the dual ISH, the positive and negative control probes look fantastic. I do really like how the new formulation has tightened up the signal."

Bio-Techne has also released enhanced formulations of its single-plex assays, providing improved signal-to-noise ratio and robustness. The RNAscope VS Universal HRP and AP assays, developed for the DISCOVERY ULTRA integrate with Roche's mRNA Universal Software for increased usability, with additional protocols enabling dual staining with immunohistochemistry or immunofluorescence. The updated RNAscope 2.5 VS Reagent Kit-BROWN and -RED assays for the DISCOVERY ULTRA T deliver permanent and more intense staining. The enhanced properties make the assays suitable for archiving and ideal when anticipating low copy target gene expression (1–20 copies per cell).

Bio-Techne has also updated its automated assay on Leica Biosystem's BOND RX with the launch of the RNAscope 2.5 LSx BROWN assay. The kit delivers seamless software integration and contains all the necessary reagents and chromogens fixed on two trays, removing the need to transfer reagents into different containers.

Tom Olenic, Vice President & General Manager of Advanced Cell Diagnostics, commented, "Automating our assays is essential for those working in drug discovery and development to have easy access to our RNA ISH technology. With this in mind, we are keen to continue to expand our capabilities in this area, enabling greater adoption of our technology across more application areas thanks to the increased flexibility that our new and updated assays deliver. We can now enable the simultaneous identification of RNA targets with customer preferred color combination on an automated system—invaluable for many applications—while our enhancements to the single-plex assays improve overall robustness and ease-of-use across different platforms."

Bio-Techne's popular, sensitive, and specific RNAscope assays, used by more than 5,000 laboratories, provide a major step forward for users of RNA ISH around the globe. The technology enables robust, single RNA molecule detection even in formalin-fixed, paraffin-embedded (FFPE) tissues, without the RNA-free environment required in traditional ISH. RNAscope ISH is used by major pharma and biotech companies and leading research institutions in drug discovery, translational research, and the development of clinical and companion diagnostic tests.

Bio-Techne Corporation (NASDAQ: TECH) is a leading developer and manufacturer of high quality purified proteins—notably cytokines and growth factors, antibodies, immunoassays, as well as biologically active small molecule compounds and ACD's *in situ* hybridization detection products --- which are sold to biomedical researchers and clinical research laboratories; these operations constitute the core Biotechnology Division, headquartered in Minneapolis, Minnesota. The Protein Platforms Division manufactures innovative protein analysis tools under the ProteinSimple brand name that greatly automate western blotting and immunoassay practices. The Diagnostics Division manufactures FDA-regulated controls, calibrators, blood gas and clinical chemistry controls and other reagents for OEM customer and clinical customers. Bio-Techne products are integral components of scientific investigations into biological processes and the nature and progress of specific diseases. They aid in drug discovery efforts and provide the means for accurate clinical tests and diagnoses. With thousands of products in its portfolio, Bio-Techne generated approximately \$563 million in net sales in fiscal 2017 and has approximately 1,800 employees worldwide. For more information on Bio-Techne and its brands, please visit www.bio-techne.com.

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