NMR Discovery Research Breaks Speed Limits

MicroFlow NMR Automation Boosts Performance

August, 2005 -- An upcoming publication in the journal *Analytical Chemistry*, "Web-based, High-Throughput NMR: A New Generation of Open-Access NMR Automation through MicroFlow Technology," highlights a new generation of capillary-scale nuclear magnetic resonance (NMR) instrumentation for high-throughput screening and characterization of mass-limited samples in microplates or microvials. This system can acquire up to one thousand NMR spectra per day from singledrop volumes of a researcher's precious sample and dramatically reduces sample preparation time, reagent consumption and NMR magnet time.

The One-Minute NMRTM automation platform (Protasis Corporation, Marlboro, MA, <u>www.protasis.com</u>) allows multi-user sample submission, tailored experiments, real-time system monitoring and data management that provides comprehensive NMR spectral acquisition and reporting of results to facilitate characterization of samples using of only ten microliters in volume and micrograms of material.

This breakthrough analytical work was performed by Bernhard Geierstanger at the Genomics Institute of the Novartis Research Foundation in San Diego, CA, where the ability to analyze small-volume samples in well-plate and microvial formats without the need for additional sample work-up and transfer to NMR tubes to increase overall throughput dramatically to hundreds of samples per week. Dr. Geierstanger's work now paves the way for standardization on 384-well plate format for both MS and NMR analyses, ease of use for walk-up users, and dramatic reduction in sample and solvent consumption.

Tim Peck, President of the MRM Division responsible for NMR instrumentation at Protasis states "We are seeing rapid acceptance of our MicroFlow NMR automation systems by groups focused on high productivity. Some demonstrate a throughput at 400 MHz that surpasses that of higher field systems, simply due to the efficiency that One-Minute NMR robotics and software employ to reliably and effectively process small volumes."

Peck is quick to point out that the sensitivity, simplicity and economy of MicroFlow NMR makes it an attractive solution for pharmaceutical laboratories and these attributes stand in sharp contrast to cryogenically-cooled, superconducting platforms that are several times more costly and require much greater maintenance.

The Protasis One-Minute NMR software works with the Protasis MicroFlow NMR Probe family, the LEAP liquid handler and all major brands (e.g., Varian, Bruker and JEOL) of NMR spectrometers. Designed to support entire departments, it allow complete high-throughput NMR sample management from any internet browser, including simultaneous web-browser connections from multiple workstations.

For More Information Contact: David Strand, CEO and Chairman, Protasis Corporation, 734 Forest St., Marlboro, MA 01752 TEL: 508.481.4163 FAX: 508.481-4190 <u>d.strand@protasis.com</u>



One-Minute NMR Software: Home Web Page



Diagram Showing One-Minute NMR Components