



◀ The Bio Tek Instruments Synergy 2 multi-detection microplate reader

▶ The Velocity11 VPrep/BenchCel/PlateLoc automation system



An Automated World

Latest robotics designed to facilitate research experiments

As technology simplifies machinery and makes it easier for humans to use, it is no surprise that new research equipment allows scientists to have more freedom in the lab. Automated systems have the potential to provide greater experimental results in considerably less time. Thus, the flexibility of these robotic machines enables researchers to obtain better data for medical/clinical purposes. Listed here are just a few of the new, automated instruments designed to assist workers in science laboratories.

BioTek Instruments has received DLReady certification for dual-luciferase assays on both the **Synergy 2** and **Synergy HT multi-detection microplate readers**. Awarded by Promega Corporation, this certification validates an instrument to the highest performance levels and standards for the Dual-Luciferase Reporter (DLR) Assay System, which is a common luminescence-based assay for measuring gene transcription and control in a microplate format. The DLR Assay System provides rapid quantitation of firefly and *Renilla* luciferase reporters in transfected cells or in cell-free transcription or translation reactions. Synergy 2 and Synergy HT multi-detection microplate readers provide flexibility and performance through a variety of detection modes in addition to luminescence and injection options, including fluorescence intensity, time resolved fluorescence and UV-Vis absorbance. Synergy 2 also offers fluorescence polarization and increased detection sensitivity. Each multi-detection microplate reader is powered by Gen5 data analysis software from BioTek. **More information: www.biotek.com**

The automated **QIAGEN BioRobot Universal System** provides a wide range of

applications in a 96-well format. Designed to provide highly standardized processing, the BioRobot enables reproducible results between experiments and labs. QIAGEN supports these automated systems with application packs containing software protocols and application-specific accessories. The Gene Expression Application Pack enables fully automated purification of RNA from a range of sample types including blood (collected in PAXgene Blood RNA Tubes), tissues, and cells as well as accommodating setup of RT-PCR in 96-well format. The Genotyping Application Pack provides purification of high-quality genomic DNA from up to 192 buccal swabs or up to 96 blood samples, also enabling flexible PCR setup in 96-well format. The Sequencing Application Pack provides purification of molecular biology grade plasmid DNA from up to 4 x 96 bacterial cultures and PCR cleanup from up to 96 samples. In addition, fully automated protocols enable sequencing reaction setup in 96-well format. Automated reaction setup provides high levels of reliability and helps to eliminate variation caused by handling errors, particularly when processing a large number of samples. The BioRobot Universal

System includes QIASoft 5 controlling software that enables users to comply with the technical requirements of 21 CFR Part 11. In addition, QIASoft 5 works with files in XML format, enabling easy data management and compatibility with laboratory information management systems (LIMS). **More information: www.qiagen.com**

The Hubrecht Laboratory sought an automation solution that would routinely produce PCR and sequencing plates with minimal handling and error. **Velocity11** provided the Laboratory with a high throughput, automated system used to routinely grid out genomic template DNA from 96-well deep well blocks onto hundreds of 384-well PCR plates, setting up PCR and sequencing reactions. **The Velocity11 VPrep/BenchCel/PlateLoc** automation system was selected because of its flexible interchange between 96- and 384-channel operation, ease of programming, speed of processing and easy integration of all required items. Capable of non-stop, 24 hours a day, seven days a week performance, the VPrep/BenchCel/PlateLoc automation system has enabled the Hubrecht Laboratory to increase throughput to 200 x 384-well plates per day creat-

» The new Lara Expansion Hub from Radleys



ing considerable cost-savings. The BenchCel system features a novel high-speed plate shuttle for access to the integrated micro plate stacks and two peripheral instruments. Powered by the **VWorks** automation control software, and benefiting from an integrated labware database, the BenchCel platform can integrate with a wide range of peripheral instruments, including all major Velocity11 products as well as third party devices. The VPrep features interchangeable heads for 8-, 16-, 96- and 384-channels. Eight pneumatic sliding shelves are arranged on either side of the pipetting head permitting access to the plates, while conserving deck space. The VPrep's head is fitted with a 2 axis positioning stage that accesses all quadrants of 96-, 384-, and 1536-well microplates. The **Velocity11 PlateLoc** is a thermal plate sealer that forms a consistent seal around each individual plate well, creating a high integrity seal. The versatile PlateLoc accommodates deep well, assay, PCR, DNA sequencing and compound storage plates. **More information: www.velocity11.com**

TTP LabTech introduces the **comPOUND system**—a flexible storage device with high speed cherry-picking capability for selecting library subsets, and delivering any sample in 5 seconds. Sample integrity is maintained using a hermetically sealed storage chamber with an inert nitrogen atmosphere kept at -20°C, and tracking is assured using a 2D barcode on each micro-tube. A pneumatic delivery system enables samples to be delivered from up to 50 feet away from comPOUND. Multiple modules can be connected to form a larger store for expanding libraries. Units are connected in parallel, so tubes can be accessed from all connected modules at the same time, maximizing throughput and processing speeds by the number of modules

linked together. For fully-automated assay plate creation, comPOUND stores can be interfaced to the comPILER high throughput, store-to-plate processing system. comPILER can cherry-pick from up to 12 comPOUND stores simultaneously, allowing the system to retrieve, process and re-store over 20,000 micro-tubes in 8 hours. **More information: www.ttplabtech.com**

Available from **Radleys**, the new **Lara Expansion Hub** enables computerized control of your lab reactor system and the integration of a wide range of third party laboratory equipment. The Lara Expansion Hub and intuitive Version 2 Lara control software offers chemists the ability to expand an existing lab reactor. Designed to simultaneously accept and control a wide range of third party devices, the Lara Hub integrates with many balances, thermo-regulators and circulators, pumps, stirrers, temperature probes, pH probes and turbidity meters as well as digital input and output devices/relays. Combined with Version 2 Lara software the Lara Hub will control and data log an array of devices with the ability to log or repeat experiments, build experiment products, process libraries, and optimize reactions to further improve process development efficiency. **More information: www.radleys.com**

Wheaton Science Products developed its **SciLutions** capability to address the need for customized products and services required by researchers. Many automated laboratory operations utilize vast quantities of containment devices. Starting with custom designed and manufactured containers, Wheaton Science meets customer's needs for vials and bottles constructed of different materials, with a variety of closure options and design features. Bar-

"New applications for detection technologies are driving researchers towards flexible instrumentation combined with high-level performance."

**—Xavier Amouretti,
Product Manager,
BioTek Instruments, Inc.**

coding, using numerous industry accepted symbologies, assists high throughput operations with sample and product tracking. Other production capabilities include critical cleaning of vials and bottles to remove trace levels of impurities and residues that may have a deleterious effect on samples. Surface treatments for various applications are performed and supported with certificates of conformance and quality. By taring containers, Wheaton Science provides sample containers that are pre-weighed eliminating another time consuming step performed in the laboratory or on the production line. SciLutions was developed for many of today's robotic and automated lab processes by providing a supply solution that helps to increase the speed of data collection and eliminate error. **More information: www.wheatonsci.com** ■

Companies Mentioned in this Product Spotlight:

Bio Tek instruments: www.biotek.com
QIAGEN: www.qiagen.com
Radleys: www.radleys.com
TTP LabTech: www.ttplabtech.com
Velocity11: www.velocity11.com
Wheaton Science Products: www.wheatonsci.com

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