

Advertisement feature

The Fast and the Furious

Stay in front of the pack by turbocharging your laboratory

With the mounting pressure from both the government and pharmaceutical companies to discover new, profitable drugs, it is important for your laboratory to be as efficient as possible. Once streamlined, *more* compounds can be tested, *faster*.

SpeedSTAR HS DNA Polymerase, from **Takara Mirus Bio**, is a convenient, efficient DNA polymerase specially designed for fast PCR. Extension times of as little as 10 sec/kb are possible, (compared to 60 sec/kb with general enzymes), dramatically reducing the reaction time required for PCR-based high throughput screening experiments.

SpeedSTAR reactions can be performed using standard PCR instruments, and the robust two-buffer system facilitates efficient amplification of varying-size fragments (up to 20kb) with less optimization than other polymerases. Additionally, the hot start formulation provides increased specificity and reduced background.

Arrayjet announces the **Sprint benchtop inkjet microarray spotter**, designed for printing smaller batches of slides in a more R&D-focused mode. The Sprint has the capacity for 20 microarray slides to be loaded and printed from two microtiter plates (96 or 384-well) in automation mode, and two further plates may be added manually by the user in relay mode. Additional substrate carriers will also be available for the Sprint to enable printing onto non-glass slide substrates such as silicon-wafers or glass-bottomed plates, making it a more flexible offering than the larger instruments. The introduction of the Sprint has also led Arrayjet to name its other products appropriately. The Aj100 will now be known as the Marathon, the Aj120 as the Super-Marathon and the Aj100/Aj120 with additional slide stacker, which will be launched in early 2008, as the Ultra-Marathon.

Designed for high throughput Polymerase Chain Reaction assays, **Bio-Dot PCR plates**, from **Porvair**, are compatible with the majority of 96-block and 384-block PCR and sequencing instruments. Available in 96-well and 384-well formats, plus a choice of full plate skirt, half plate

skirt or no skirt designs - Bio-Dot PCR plates, high rigidity minimizes distortion before and after thermal cycling. To ensure full compatibility with robotic systems, all Bio-Dot PCR plates conform to SBS/ANSI dimensions. Available in packs of 25 and 50 individually wrapped plates and lids - 96-well Bio-Dot plates reduce the cost of PCR analysis without compromising performance. Also available in packs of 50 individually wrapped plates and lids, 384-well Bio-Dot PCR plates have a working well volume of only 30 μ L meaning that they are highly economical on valuable samples.

FastLane Kits, from **QIAGEN**, accelerate and streamline real-time RT-PCR analysis of cultured cells. By eliminating the need for RNA purification, the kits allow real-time RT-PCR to be carried out directly from cell lysates. The kits are ideal for experiments requiring rapid, high-throughput gene expression analysis, such as validation of siRNA-mediated gene knockdown. Only 12 minutes are required to prepare cell lysates which can be used directly in reverse transcription or in real-time one-step RT-PCR. To ensure reliable gene expression analysis in subsequent real-time RT-PCR, RNA is immediately stabilized upon cell lysis, and genomic DNA is effectively eliminated using novel gDNA Wipeout Buffer. The comprehensive range of FastLane Kits provides high-speed solutions for all types of real-time RT-PCR. Kits are available for one-step RT-PCR (for cell-cultures of up to 384-wells) and two-step RT-PCR (for cell-cultures of up to 96-wells). Quantification is achieved using sequence-specific probes (in single or multiplex reactions) or SYBR Green I dye.

The **Thermo Scientific Multidrop Combi nL bulk reagent dispenser**, from **Thermo Fisher Scientific**, is ideal for nanoliter-to-microliter volumes. The

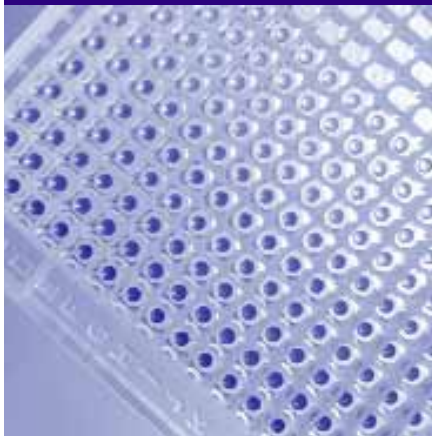
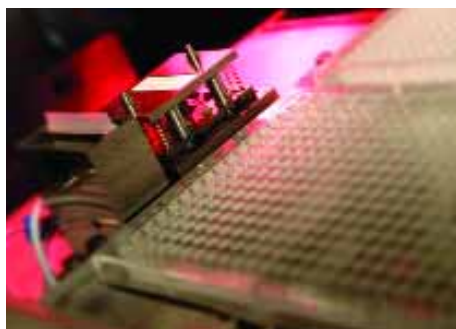


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The Sprint benchtop inkjet microarray spotter from Arrayjet

Multidrop Combi nL provides accurate, consistent, high-throughput dispensing for all laboratories across a volume range of 50 nL to 50 μ L. The Multidrop Combi nL is easy to maintain and can be used to dispense all common reagents, diluents, buffers and solvents as well as viscose solutions, cells and beads, making it ideal for the large variety of assays and protocols. It uses a pressurized reagent container with valves to provide high precision and accurate control of liquid flow at all volumes, and as a result, reagent waste is greatly decreased, minimizing costs and maximizing the utilization of precious samples.

TTP LabTech introduces the **mosquito** liquid handler which facilitates the miniaturization of assays through precise serial dilutions on a microliter scale. If volumes are restricted to less than 1 μ l, the dilution plate may be used as the assay plate. The most critical aspect of the serial dilution process is the mixing step. It is important to aspirate close to the bottom of the well and dispense near the top of the liquid level as this enhances the mixing process. Improper mixing results in poor CVs and incorrect EC50 or IC50 determinations. mosquito's micropipettes are arranged in a column of 8 or 16 tips. The pipettes use positive displacement and direct contact, allowing them to aspirate, dispense and even mix sub-microliter volumes. This enables mosquito to automate assay-ready serial dilutions in 96- and 384-well plates.

Beckman Coulter announces the availability of integrated **Industrial Robotics Solutions** for high-throughput pharmaceutical and biotech applications. The Motoman HP3JC Robot, coupled with the powerful SAMI EX scheduling software tool, provides the transportation foundation for these robust systems and facilitates assay



The Thermo Scientific Multidrop Combi nL bulk reagent dispenser

design, providing ongoing checks and feedback to the developer, ensuring that the finished method is prevalidated. The software integrates all devices and liquid handlers and interleaves actions and plates for maximum throughput and efficient resource utilization. Advanced SAMI Workstation EX Software provides features tailored to industrial applications while a safety enclosure protects both operator and sample. Manufactured by the Yaskawa Electric Company, Industrial Robotics Solutions are individually tailored to the application by the Beckman Coulter Integrated Solutions Team.

Taconic announces a **new high throughput platform for genotyping laboratory mice and rats** designed to reduce costs and turnaround time. Scientists simply login to the website – <http://taconic.transnetyx.com> and request a sample collection kit by clicking on the "Quick Order" button. The easy to use web site provides frequently asked questions (FAQs) on every screen to assist functionality. Sample submission and results reporting are accomplished efficiently via a secure online system that provides guaranteed delivery of results in 24 hours. The new genotyping service employs an advanced, real-time PCR platform from ABI System, and is almost entirely automated from extraction to real-time PCR.

Velocity11 introduces the application of its **BioCel Automation Platform** for use in high-throughput kinetic fluorescence assays. The BioCel Automation System delivers the functionality of much larger systems in an efficient innovative package optimized for speed. The BioCel is a fully capable sample-processing platform for assembling genomics reactions, dispensing samples for compound preparation, or processing biological samples in screening applications.



Beckman Coulter's Industrial Robotics Solutions

The system's event-driven scheduler supports multiple plate formats and labware, multiple protocols, and linear and parallel process flows, while the software architecture accommodates expansion of the system to include additional modules and access to new third party devices.

FEI announces the next generation of its popular Vitrobot cryo sample preparation tool, the **Vitrobot Mark IV**. The Mark IV is an easy-to-use system that features a newly-designed touchscreen user interface operated under a Linux operating system and robotics that ensures high-quality, reproducible freezing of samples. Automated transfer from the vitrification medium into the liquid nitrogen atmosphere offers more consistent and higher yield sample throughput. The Vitrobot is a high-throughput tool designed to enable the physical fixation of biological structures within ultra-thin vitrified ice layers so samples can withstand the high voltages used in TEMs long enough to acquire the necessary image.

Companies mentioned in this Product Focus:

ArrayJet – www.arrayjet.com
 Beckman Coulter – www.beckmancoulter.com
 FEI – www.fei.com
 Porvair – www.porvair.com
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