

Advertisement feature

# The Big Screen

## More focus on throughput pushes productivity

Screening compounds in the search to find tomorrow's blockbuster drug is repetitive and tedious, yet can be the most fulfilling task in the pharmaceutical research laboratory – as long as a discovery is made. Great focus is given to the development of screening technology. Yesterday's technology helped deliver today's big discoveries. What will you do with the technology below?

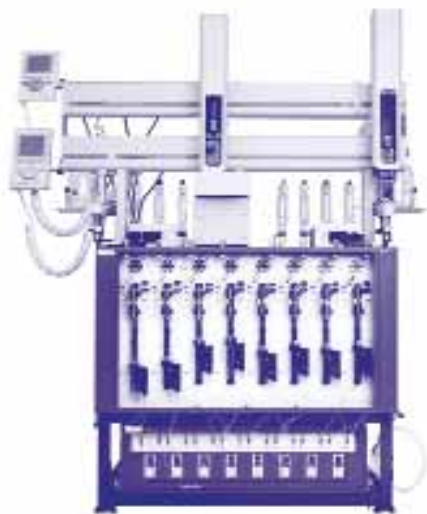


Image supplied by Eksigent

**Applied Biosystems** and its joint venture partner **MDS SCIEX** have created a new software development initiative to help pharmaceutical companies determine drug candidate viability early in the development pipeline through better analysis of the absorption, distribution, metabolism and excretion (ADME) properties of compounds. The Applied Biosystems/MDS SCIEX approach creates an intuitive method for managing the screening of compounds by increased automation of the analytical process, particularly quantitative mass spectrometry tailored for drug discovery laboratories. The analytical accuracy, sensitivity and quantitative capabilities of the mass spectrometry instruments and software provided by Applied Biosystems/MDS SCIEX have helped to make mass spectrometry-based systems the preferred method for pharmaceutical research. As part of the initiative, Applied Biosystems/MDS SCIEX is collaborating with Sound Analytics and Pfizer, Inc. to design these software applications. Sound Analytics will provide expertise in early ADME software development while Pfizer, the world's largest research-based pharmaceutical company, will provide the guidance to shape the requirements for the new ADME software applications.

The **A100 C-Fast** system, from **Attana**, is a continuous flow biosensor that maximizes productivity by allowing unattended analysis of up to 192 samples. Fast and intuitive set-up includes pre-programmed methods and templates. The A100 C-Fast system is optimized for high quality and cost efficient, label-free, on-line kinetic studies (on/off rates and affinity) of molecular interactions, which provides considerable advantages over end-point assays such as ELISA. It enables the analysis

of samples directly from crude samples without purification and labeling, making it faster and more efficient to select and characterize monoclonal antibodies directly from, for instance, cell culture media.

**BellBrook Labs** introduces the **Transcreener PDE Assay**, a far-red, competitive fluorescence polarization immunoassay based on the detection of the hydrolyzed substrates AMP or GMP. Transcreener PDE Assay is a simple two-step, endpoint assay accommodating cAMP/cGMP concentrations of 0.1 to 10  $\mu$ M with a single reagent mix (up to 1 mM substrate has been used with Ab optimization). The assay provides an excellent signal under initial velocity conditions resulting in overall  $Z' > 0.6$ . Although originally designed for phosphodiesterases (PDE) that hydrolyze cAMP or cGMP, the Transcreener PDE Assay can be used for any enzyme class that produces either AMP or GMP. Reduced development costs and accelerated drug discovery are achieved by utilizing this one simple streamlined screening method.

**Eksigent** introduces the **ExpressLC-800 Plus** featuring new solvent switching functionality. The new system configuration makes up to six solvents available to each of the eight LC channels. Solvent switching is easily programmed via the system control software. The ExpressLC-800 Plus is ideal for methods development and high-throughput applications in drug discovery. The ability to use eight channels provides true multiplexed HPLC for dramatic savings in analysis time, labor and laboratory bench space. The ExpressLC-800 Plus combines advances in gradient delivery and mixing, sample injection and optical detection to deliver dramatically increased levels of separation resolution and speed.

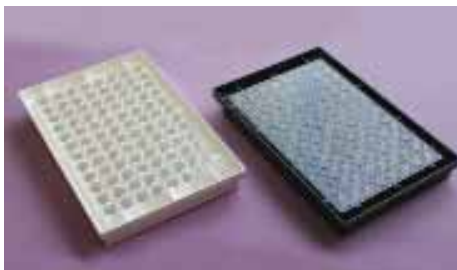
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The MaX WorkCell from Thermo Fisher Scientific



The Krystal-UV clear-bottomed microplates from Porvair

"Everyone is developing their own philosophy about how HTS should be done."

Sandra J. Fox,  
President,  
HighTech Business Decisions

**Nagase/EnBioTec** introduces **RCAS** (Receptor Cofactor Assay System), a cell-free assay system using nuclear receptors and co-factors used to screen single compound libraries, natural product extracts and synthetic chemicals. RCAS allows the selection of various receptors and co-factors and is able to distinguish between agonist and antagonist. Nagase/Enbiotec provides clients with primary screening, a confirmation test and a detailed test. By employing RCAS, less false positives, faster turnaround time and higher sensitivity are provided.

The new **Gilson GX ASPEC** Instrument range is perfect for Solid Phase Extraction (SPE) procedures to remove interfering substances from the samples. This generates clean extracts to improve detection limits and sensitivity in subsequent chromatographic analysis. Advanced instrumentation to automate this process enables it to quickly and efficiently increase throughput. It provides total handling for sample analysis, from simple liquid handling tasks such as dilution and buffer addition, to complex heating and derivatization procedures, automated SPE and fraction collection. The ASPEC units incorporate large cartridge capacities and pressure sensing modules, while JetWash rinse stations reduce the risk of contamination between samples, ensuring integrity of results. The GX ASPEC combines throughput, minimal linear bench space usage plus the ability to run unattended for a suitable choice in sample preparation tasks.

**Millipore** in collaboration with **CXR Biosciences** announces a range of antibodies that identify key enzymes and transcription factors important in drug metabolism and its regulation. The product portfolio includes: Human Cytochrome P450 CYP2D6, Human Cytochrome P450 CYP2A6, Human Cytochrome P450

Reductase (POR), Human Pregnane X Receptor (PXR), Human Constitutive Androstane receptor (CAR), Human Farnesoid X Receptor (FXR) (27 to 143), and Human Farnesoid X Receptor (FXR) (322 to 472). This product platform enables safe drug compounds to be identified sooner and allows only the molecules most likely to succeed in the clinic to advance.

**Krystal-UV** clear-bottomed microplates from **Porvair** are designed to offer excellent performance in the long wavelength UV region. The plates are available in 24-, 96- and 384- well formats, in black or white ultra pure grade polystyrene, and offer excellent photometric performance down to 325nm (80%T at 325nm, 100%T at 335nm). Wavelengths below 350nm are particularly useful for a variety of fluorescence assays such as HNK-1 (Fluorescence EM 325nm, EX 380nm), Thioguanine (EX 330nm, EM 410nm) using black Krystal-UV plates, as well as many absorbance assays including Vitamin A (325nm), retinol and retinyl acetate (325nm), caspase (325nm), acid phosphatase (330nm) and hydroxyproline (335nm) using white Krystal-UV plates. All Krystal-UV plates are manufactured to very high tolerance for flatness and adherence to the SBS/ANSI standards, making them ideal for use with automated liquid handling, photometric readers and robotic handling devices.

**Thermo Fisher Scientific** introduces the **MaX WorkCell** for automated macromolecular crystallization plate production. The MaX WorkCell instrumentation addresses all process needs of plate preparation including screen-making, drop-setting and plate sealing, in one unit. As part of the Rhombix product range for protein crystallization, the MaX WorkCell is the only all-inclusive plate preparation system and is compatible with multiple plate types and crystallization

techniques. As a preconfigured system with a small footprint, installation is quick and easy, and laboratory work space is kept to a minimum.

**TTP LabTech** introduces the new triple laser **Acumen eX3** microplate cytometer. An evolution of its highly successful Acumen Explorer HCS platform technology, the Acumen eX3 is equipped with up to three lasers at 405, 488 and 633 nm, offering a wavelength range for excitation that is similar to that of white light source instrumentation and significantly increasing the variety of fluorescent reagents compatible with the system. The new Acumen eX3 will simplify assay transfer from development to screening laboratories by delivering the powerful object recognition of CCD Imagers combined with the fast reads of bulk fluorescence readers. Scanning up to 64 whole wells at a time, the Acumen range of laser-scanning fluorescence microplate cytometers can perform cytometric analyses at throughputs of up to 200 plates - or 300,000 data points (1536 plates) - per day.

**Companies mentioned in this Product Focus:**

- Applied Biosystems - [www.appliedbiosystems.com](http://www.appliedbiosystems.com)
- Attana - [www.attana.com](http://www.attana.com)
- BellBrook Labs - [www.bellbrooklabs.com](http://www.bellbrooklabs.com)
- Eksigent - [www.eksigent.com](http://www.eksigent.com)
- EnBioTec - [www.enbiotec.co.jp](http://www.enbiotec.co.jp)
- Gilson - [www.gilson.com](http://www.gilson.com)
- MDS SCIEX - [www.mdsciex.com](http://www.mdsciex.com)
- Millipore - [www.millipore.com](http://www.millipore.com)
- Porvair - [www.porvair.com](http://www.porvair.com)
- Thermo Fisher Scientific - [www.thermofisher.com](http://www.thermofisher.com)
- TTP LabTech - [www.ttplabtech.com](http://www.ttplabtech.com)

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