



### Small Molecule X-Ray Crystallography

The Apex Duo single crystal diffractometer features instantaneous and automated x-ray wavelength change. The Apex Duo combines a molybdenum sealed tube and a high-intensity, air-cooled copper microfocus tube with the most sensitive charge-coupled device detector available. This unique combination of a microfocus source with a standard sealed tube allows operation of both x-ray sources without any changeover, with typically one source in operation and the other in standby. This novel approach allows instantaneous, unattended switching of wavelengths without any of the source cold starts of first-generation dual-wavelength systems, which can lead to reduced tube lifetimes. In addition, the advanced copper microfocus source delivers up to twice the intensity of standard copper sealed tubes, allowing faster experiments and better data quality. The system's software allows the user to set up combined experiments for successive data collections using both copper and molybdenum wavelengths in a single experiment.

**Bruker AXS** For information 978-663-3660 [www.bruker-biosciences.com](http://www.bruker-biosciences.com)

### Endotoxin Detection

The PyroSense system provides automatic, quantitative determination of endotoxin in water at user-selected intervals, using a standard assay system with the patented, endotoxin-specific PyroGene recombinant Factor C assay. The system is designed to test around the clock, seven days a week, according to user demand. It can operate in production environments with minimal supervision. All the reagents and accessories are provided in a disposable cartridge that can be quickly changed by nontechnical personnel.

**Lonza** For information +41 61 316 8798  
[www.lonza.com](http://www.lonza.com)

### miRNA Profiling by Real-Time PCR

The miScript System allows quantification of multiple microRNAs (miRNAs) from a single complementary DNA (cDNA) synthesis reaction, reducing variability and saving precious samples. Both miRNA and messenger RNA (mRNA) can be quantified from the same cDNA synthesis reaction, enabling simultaneous detection of reference genes or other mRNAs of interest, such as the mRNA targeted by an miRNA. The miScript System is highly specific, overcoming the challenges presented by the existence of multiple miRNA isoforms. In addition, high sensitivity provides a dynamic range several orders of magnitude greater than microarrays, ensuring comprehensive and accurate miRNA profiles.

**Qiagen** For information 800-426-8157  
[www.qiagen.com/miRNA](http://www.qiagen.com/miRNA)

### Division Arrested Cell Lines

The first suite of 60 division arrested cell lines for conveniently and cost-effectively screening a broad range of therapeutic targets is available. Generated through a proprietary treatment of dividing cells, division arrested cells do not require lengthy and

laborious cell culture procedures to prepare live cells for screening assays. Division arrested cells can be plated and assayed within 24 hours of thawing, and cell numbers increase only marginally after plating, thereby removing the variability caused by cell division during the course of an assay and providing more constant results. Division arrested cells show agonist-induced responses virtually indistinguishable from those of dividing cells, and exhibit no toxicity or apparent changes in signal transduction, ensuring researchers obtain the correct pharmacological profile.

**Invitrogen** For information 800-955-6288  
[www.invitrogen.com/divisionarrest](http://www.invitrogen.com/divisionarrest)

### Culture System

The GIBCO AlgiMatrix three-dimensional (3D) culture system is an animal-origin free bioscaffold designed to closely mimic the conditions of a cell in the human body. AlgiMatrix provides superior cell loading, nutrient delivery, and potential for cell-to-cell interaction. The 3D scaffolding is designed to better mirror the environment experienced by normal cells in the body, and enables intercellular interaction with more realistic biology and functional relevance. It is suitable for many cell-based screening, drug discovery and human cell therapy procedures. Unlike animal-derived 3D matrices, AlgiMatrix is a macroporous alginate sponge structure that delivers consistent results to support the growth of diverse cell types.

**Invitrogen** For information 800-955-6288  
[www.invitrogen.com](http://www.invitrogen.com)

### Engineered Stem Cell Line

A new engineered stem cell line allows scientists to monitor the pluripotency of human embryonic stem cells without sacrificing those cells. A pluripotent stem cell is one that has the ability to differentiate into cells of all the three major lineages—

endoderm, mesoderm, and ectoderm. This new BG01v/hOG line was obtained by engineering the BG01v human embryonic stem cell line with the Oct-4 promoter (a known pluripotency marker) coupled with a green fluorescent protein reporter. The engineered line glows green when the cells are in a pluripotent state, but the cells lose their fluorescence as they start to differentiate. This allows scientists to track pluripotency without having to sacrifice the cells as they currently have to do by analyzing gene or protein expression.

**Invitrogen** For information 800-955-6288  
[www.invitrogen.com](http://www.invitrogen.com)

### Genome Analyzer

By making use of a massively parallel sequencing approach, the Illumina Genome Analyzer can generate more than 1 billion bases of data in a single run. The system leverages Solexa sequencing technology and novel reversible terminator chemistry, optimized to achieve new levels of cost effectiveness and throughput. The instrument delivers accurate, high-confidence data, even in homopolymeric regions. Its straightforward protocols require no beads and no emulsion, and allow walkaway operation for up to 72 hours. The system can be used for a broad range of applications, from DNA sequencing to digital expression profiling and small RNA discovery. It operates at less than 1% of the cost of capillary-based methods.

**Illumina** For information 312-997-2436  
[www.illumina.com](http://www.illumina.com)

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# Science

## New Products

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