

Mastering the molecular domain

Molecular biologists converge on Washington, DC for the annual American Society for Biology and Molecular Biology meeting, May 17–21. On exhibition will be tools for PCR, purification, sequencing, and bibliographic support.

GS-2000 sequencer

From Web Scientific

An automated DNA sequencer and fragment analysis system, developed by Corbett

Designed for high performance and low cost, this instrument uses ultra-thin, 80- μ m gels, which are said to rival the performance of capillary systems, but allow greater numbers of samples to be run simultaneously. According to the manufacturer, the gel pouring is bubble free and simple, and the same gel can be used up to five times. Gels can be quickly loaded in either 48- or 64-well formats, using a standard multi-channel pipette (0.4-mm wells obviate the need for special pipette tips). This was designed to be an ultra-fast, automated fluorescence system, which is said to read up to 400 bases in 3 h 10 min, with high sensitivity and resolution. The instrument can detect and size 100 attomoles of fluorescently labelled DNA in a single peak, and works with most commercially available fluorophores. DNA fragments can be sized to ± 0.2 nt across the entire gel. For RFLPs and RAPDs under non-denaturing conditions, ethidium bromide can be used to detect as little as 500 attomoles of DNA. Genotyping runs can be carried out in less than a stated 30 min. With the addition of a cooling accessory, the instrument can also carry out SSCP, says Web Scientific.

Reader Enquiry No. 100

SQL+GT

From Perkin-Elmer

A genetic tracking system that supports bioinformatics sample tracking

Based on PE Nelson's laboratory information management system (LIMS), this program has been combined with two complementary molecular informatics products: the BioLIMS system for DNA sequence and results management, and the BioMerge system for genomics data analysis and integration. It was created to perform project and sample management associated with genetic analysis. SQL+GT helps automate sample tracking, manage workflow and integrate information with existing database applications. The plate- and sample-tracking architecture allows immediate determination of library or sample location. The control software uses a graphical plate interface, and interacts directly with the ABI Prism XL automated DNA analysis system by creating sample sheets for gel loading.

Reader Enquiry No. 101



Make a run on DNA with Hybaid's PCR Sprint.

Amplification

PCR Sprint

From Hybaid

A new oil-free personal thermal cycler

This unit uses a screen and keypad layout to allow rapid, easy programming, with the same easy-to-use programming and temperature control characteristics of the company's larger capacity instruments. Operators are guided through a series of large, user friendly screens. Hybaid's 'active-tube' control and 'simulated-tube' control systems are standard features on this system. These are said to allow more accurate and reproducible temperature control than is achievable on thermal cyclers that rely on measurement of sample block temperature to control the cycling. This system also features robust Peltier block technology and is said to be compact and affordable.

Reader Enquiry No. 102

BioFocus LIF²

From Bio-Rad

A new fluorescence detector for PCR analysis, which is stated to be $\times 1000$ more sensitive than ultraviolet detection

The increased sensitivity of this new laser-induced fluorescence (LIF) detector is said to increase speed and accuracy of PCR product measurements. This method of nucleic acid fragment analysis uses capillary electrophoresis, which is said to reduce the number of DNA amplification cycles that are needed. PCR products, restriction fragments, microsatellites and mutations can be detected at stated concentrations of 0.5 μ M or less. BioFocus LIF² incorporates both a 488-nm Ar laser and a 594-nm He/Ne laser, which can be set up with one or two data-collection channels. In the two-channel configuration, the sample can be run simultaneously with an internal standard, which helps to eliminate run-to-

run variations. The instrument should prove especially useful in conjunction with the company's BioFocus dsDNA low-background fluorescent stain kit, detecting DNA fragment concentrations down to 8×10^{-12} M. In addition, the detector provides automatic real-time data integration and report printing.

Reader Enquiry No. 103

RNase-free water

From Severn Biotech

RNase-free, DEPC-treated water specifically for PCR reactions

Supplied in a 5-ml amber vial, this product should prove useful to those doing PCR, but would like the increased security of eliminating water as a potential source of contamination in enzymatic reactions. The volume is said to be adequate for most applications and can be disposed of after use, eliminating cross-contamination by other workers. Each vial contains water that has been bacterial filtered, purified to 18 M Ω , treated with DEPC and autoclaved. (This product is sold in packs of 100.)

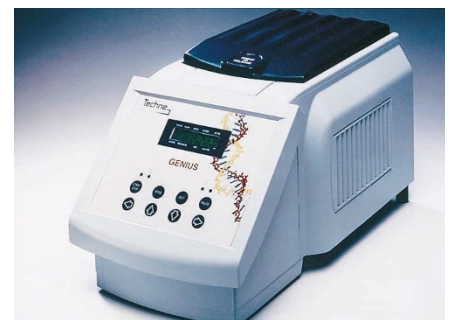
Reader Enquiry No. 104

Genius thermal cycler

From Techne

A 384-well thermal cycler for large-capacity, high-throughput sequencing and PCR

The 384 block is interchangeable with all the other blocks available for Genius, allowing the easy scale-up and transfer of protocols. Using a 384-block format allows the researcher to scale up from existing 96-well formats and to reduce costs by reducing sample volume and reagent usage. The cycler is said to control the temperature accurately, up to 99 °C heating and down to 4 °C cooling, with 0.5 °C block uniformity. Each unit has a self-adjusting heated lid to allow for oil-free reactions. This unit is designed for easy programming and will accept all of the



'Brains and brawn' with the Genius thermal cycler.

current complex protocols (step down, nesting, long, rapids, and the like).

Reader Enquiry No. 105

Separations

IPGphor

From Amersham Pharmacia Biotech
An isoelectric focusing (IEF) system for two-dimensional electrophoresis

This system is designed for high-resolution, first-dimension protein separations on immobilized, pH-gradient gels. It offers simplified sample handling and is said to reduce the number of IPG-strip manipulations, as well as reducing separation times without a loss in resolution. The system includes a programmable 8,000-V, 1.5-mA power supply and solid-state Peltier temperature control (from 18–25 (± 1) °C) for up to twelve IPG-strip separations at one time. A ceramic strip holder functions in both the rehydration and separation steps. In the strip holder, an IPG strip is rehydrated gel-side down in a small volume of rehydration solution. Near the ends of the rehydration channel, the gel rests on platinum electrodes, which extend through the base of the strip holder to external contact points. By placing the holder on the contact areas of the platform, the holder simultaneously makes contact with the power supply and the temperature control plate. Thus, the IEF step is carried out in the same strip holder as rehydration, without moving the strip or the holder. The system controller can store nine programmes, each with up to nine stepped or ramped voltage changes. Users can also use a delayed start, loading the system in the afternoon and having IEF start automatically during the night, for example.

Reader Enquiry No. 106

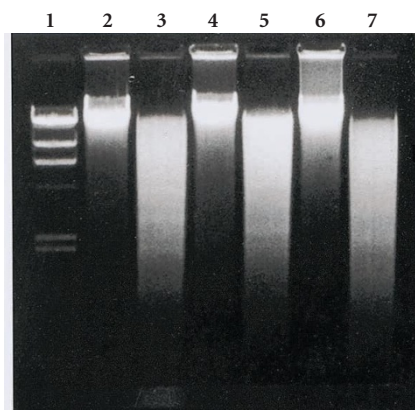
Centrifugal filter tubes

From Eppendorf

A range of filter inserts with their respective centrifuge tubes

Created for concentration, purification or desalting of various samples, these filter tubes are available in three volumes (0.5 ml, 4.0 ml and 15 ml), and in six different cut-off sizes, each ranging from 4K to 0.45 µm. This covers all relevant applications, ranging from the concentration of peptides all the way up to bacteria and cell harvesting. The membranes are characterized by extremely low affinity for protein or nucleic acids and thus correspondingly high recovery rates, says Eppendorf. The special construction of the inserts ensures reliable sealing of the tubes during centrifugation while, at the same time, maximizing concentration and giving defined retention volumes. Eppendorf thus offers an efficient solution for rapid concentration of liquid samples.

Reader Enquiry No. 107



Genomic DNA isolated with DNAzol ES.

DNAzol ES

From Molecular Research Center
A ready-to-use reagent for the isolation of genomic DNA from plant material

The reagent contains a guanidine detergent, lysing mixture that is designed to facilitate plant DNA extraction while optimizing the removal of contaminating factors. To accommodate the wide variety of plants studied, the protocol includes optional steps appropriate for more difficult plant tissues. One gram of plant tissue requires only 3 ml of DNAzol ES for DNA extraction. In the figure (above), DNA has been isolated from tomato, philodendron and green pepper leaves (lanes 2–3, 4–5 and 6–7, respectively). DNA from lane 3, 5 and 7 was restricted with 5 U *EcoRI* per mg of DNA, 4 h at 37 °C and electrophoresed in one per cent agarose.

Reader Enquiry No. 108

General software

Grant forms

From ScienceMedia

Software for writing NIH grant proposals

The new software can be downloaded and reviewed at <<http://www.grantforms.com/>>

Reader Enquiry No. 109

EndNote 3.0

From Niles Software

An Internet search client that searches remote databases and creates bibliographies

This new version allows users to search remote bibliographic databases on the Internet and includes better integration with electronic publications. Currently, researchers must go through a multiple-step process to download references from online databases and import them into their personal bibliographic database. EndNote 3.0 has been written to simplify this multiple-step process by integrating the two functions into one program. The new program has more than 100 connection files that will link to resources such as university card catalogues, the Library of Congress and to more specialized data-

bases, such as MEDLINE, PsycInfo and ERIC. The user simply opens the connection file and can begin searching, just as they would in their own EndNote database. Then selected references can be simply dragged and dropped into their local EndNote database. The new version also allows the user to launch a web browser from within the application, directly to the URL.

Reader Enquiry No. 110

These notes are compiled by Brendan Horton from information provided by the manufacturers. For more details, fill in the reader service card bound inside the journal.

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READER ENQUIRY NO. 28

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PROTEIN SEQUENCING

Membrane-bound, solid or solution samples

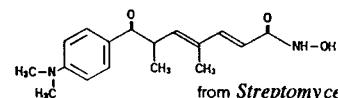
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READER ENQUIRY NO. 14

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