

CARBON NANOMATERIAL CHARACTERIZATION

Designed to simplify the Raman technique for nonspecialist instrument users, the new DXR Nanocarbon Analysis Packages enhance productivity and provide accurate, rapid, and reproducible results. These two packages incorporate rigorous automated calibration and alignment routines, control of laser power, and sophisticated quality checks to every spectrum collected. The DXR Nanocarbon Microanalysis Package, featuring the DXR Raman Microscope, is a complete system configured for microcharacterization. The DXR Nanocarbon Analysis Package, which leverages the Thermo Scientific SmartRaman, is a full system for bulk materials characterization. Both contain hardware, software, and sampling accessories. Analysis packages are highly flexible and can be customized to accommodate a wide variety of applications and sample forms covering important areas of carbon nanomaterials such as fundamental research, nanomaterial production, and functionalization, as well as applied research on end-applications and end-application production.



Thermo Scientific

For info: 800-532-4752 | www.thermoscientific.com/raman

PRESSURE-BASED DROPLET GENERATION SYSTEM

The Pressure-based Droplet Starter System is ideal for the initial exploration of droplet microfluidics. It provides a complete solution containing all necessary pumps, connectors, and chips, enabling the immediate production of highly monodispersed droplets from diameters of 20 μm to 150 μm , with a diameter tolerance of ± 1 percent. Operating over a wide pressure range of 0 bar to 10 bar, this Pressure-based Droplet Starter System is extremely chemically resistant and its modular design makes it easily expandable for future application requirements. Providing a pulseless and stable liquid flow, this cost-effective modular toolkit eliminates dead volume and sample waste to effectively reduce associated reagent costs. In addition, the ability to provide a quick liquid changeover significantly increases the throughput of any application. A lockable pressure chamber and an innovative three-way chamber lid allow simultaneous pumping of up to three liquids, making it ideal for entry-level experimentation.

Dolomite

For info: 617-803-6655 | www.dolomite-microfluidics.com

3D TISSUE GENERATION

Real Architecture for 3D Tissue (RAFT) has been developed for making consistent multicellular 3D tissue constructs simply and rapidly, in less than one hour. RAFT allows complex multilayer tissues to be formed—with different cell types in each layer—and cells to be cocultured in a well controlled way. The resulting biomimetic tissues, made from fibrillar collagen, are strong, transparent, and 50 μm to 100 μm thick. Additionally, a workstation and consumables has been developed to automate and scale up this 3D tissue production process, enabling up to 24 tissues to be made in parallel. Tissues are made either in the wells of a 24-well plate; on permeable membrane inserts for barrier assays; or cultured at an air/liquid interface, for example to form stratified epithelia. The tissue remains in the same well from its creation until the end of the experiment and can be analyzed using standard techniques.

The Automation Partnership

For info: +44-(0)-1763-227200 | www.automationpartnership.com

REFRACTIVE INDEX DETECTION

The Refractive Index (RI) detection instrument, the Optilab T-rEX, provides full range of detection and sensitivity across the entire dynamic range, meaning there is no longer a need to compromise one for the other. The range of the Optilab T-rEX enables the instrument to be used in almost any standard isocratic chromatographic conditions and for many gradient applications. In addition, recent developments in heterojunction light emitting diodes (LEDs) allow the T-rEX to have a light source 50 times brighter than previous instrumentation. This superior light source results in the detector array filling with light much faster than previously possible. The new instrument also offers high speed data acquisition and includes an onboard computer, allowing the rapid scanning of arrays, with 1 million measurements made every second. The T-rEX also has a flow cell with a total volume of only 7.4 μL , which is 25 percent less than the leading refractometers available today. This results in minimized band broadening and better temperature stability.

Wyatt Technology

For info: 805-681-9009 | www.wyatt.com

IgG FRAGMENTATION

Immobilized papain, ficin, and pepsin enzymes, provided in sizes of 5 mL resins, can be used to cleave immunoglobulin G (IgG) antibodies near the hinge region. The immobilized papain, ficin, and pepsin offer the distinct advantage of eliminating enzyme contamination of the created fragments. Papain produces two fragment antibody binding (Fab) domains and one fragment crystallizable (Fc) domain. Ficin cleaves IgG to create one Fab and one F(ab')₂ fragment. Pepsin preserves the disulfide bonds joining the heavy chains, which generates F(ab)₂ fragments. Further separation of the digested products can be performed with G-Biosciences' Immobilized Protein A or by ion exchange chromatography.

G-Biosciences

For info: 800-628-7730 | www.gbiosciences.com

Electronically submit your new product description or product literature information! Go to www.sciencemag.org/products/newproducts.dtl for more information.

Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and governmental organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement by *Science* or AAAS of any products or materials mentioned is not implied. Additional information may be obtained from the manufacturer or supplier.

Science

New Products

Science **330** (6001), 247.
DOI: 10.1126/science.330.6001.247-a

ARTICLE TOOLS <http://science.sciencemag.org/content/330/6001/247.1>

PERMISSIONS <http://www.sciencemag.org/help/reprints-and-permissions>

Use of this article is subject to the [Terms of Service](#)

Science (print ISSN 0036-8075; online ISSN 1095-9203) is published by the American Association for the Advancement of Science, 1200 New York Avenue NW, Washington, DC 20005. The title *Science* is a registered trademark of AAAS.

Copyright © 2010, American Association for the Advancement of Science