



### Soft X-Ray XUV Spectrograph

Suitable for water-window imaging, high-harmonic-generation laser spectroscopy, X-ray plasma diagnostics, extreme ultraviolet lithography (EUVL), optical characterization, metrology, and calibration, the McPherson Model 251MX spectrograph offers uncompromising performance over the wide 0.5 nm–150 nm range, simply by indexing diffraction gratings. The 251MX is optimized

for high-energy photons, including soft X-ray and extreme UV (XUV). It does not scan with point detectors, but works exclusively with micro-channel plate intensifiers and/or direct-detection CCD array detectors. The aberration correction provides flat-field and straight spectral lines ideal for planar detectors and good spectral resolution. The diffraction gratings are from holographic masters, and the laminar groove profile resembles a square wave. The laminar-grating diffraction efficiency in even orders of light is lower than either sawtooth or sinusoidal profiles, which helps keep a high energy spectrum clean and more easily interpretable—especially at short wavelengths.

#### McPherson

For info: 800-255-1055  
www.mcphersoninc.com

### Differential Refractometer

The AYE from Testa Analytical Solutions is a flexible differential refractometer that may be used in either static or dynamic mode. The refractive index increment ( $dn/dc$ ) is a critical parameter required to determine absolute molecular weight using static light scattering (SLS) detectors. AYE offers numerous wavelength options to enable precise matching of your SLS detector laser-operating wavelength, ensuring reliable and reproducible results every time. Where the  $dn/dc$  value of the sample is already known, the AYE differential refractometer can be used for precise and sensitive concentration determination. The amount of sample used for determining concentrations can also be easily recollected and therefore utilized for further investigations.

#### Testa Analytical Solutions

For info: +49-30-864-24076  
www.testa-analytical.com/index.html?dc=dndc&sn=1

### Automated Endotoxin Detection

Lonza has created a next-generation automated endotoxin testing platform, PyroTec PRO, which will streamline the performance of the QC laboratory through process optimization and automation of routine manual tasks associated with endotoxin testing. Automated endotoxin testing can substantially reduce the potential for human error, enhancing the accuracy, reliability, and traceability of results. Using Lonza's WinKQCL endotoxin software, PyroTec PRO will take any new and existing templates and dynamically "script" the instructions to an automation template with minimal effort from the end user, regardless of how complex the sample/diluent type or testing requirements. The system requires no programming or script-writing skills to operate and offers unparalleled flexibility in the sample layout within the microplate.

#### Lonza

For info: 800-638-8174  
bioscience.lonza.com/lonza\_bs/US/en/endotoxin-automation

### Human iPSC-Derived Microglia

Axol Bioscience has introduced a new line of Human Induced Pluripotent Stem Cell (iPSC)-Derived Microglia for the study of neuroglia and their involvement in neurodegenerative diseases. Microglia are commonly described as the immune cells of the brain. Axol generates physiologically relevant Human iPSC-Derived Microglia from a single donor with a normal karyotype, providing a homogenous population that is assay ready in just four days. These microglia exhibit physiologically relevant functionality with highly phagocytic activity and secretion of cytokines in response to pathogens. They also express the microglia-specific marker transmembrane protein 119 (TMEM119) along with myeloid markers triggering receptor expressed on myeloid cells 2 (TREM2) and ionized calcium binding adaptor molecule 1 (IBA1). The expression of these phenotypes means the microglia provide a suitable model for investigating neuroinflammation in Alzheimer's disease, multiple sclerosis, and Parkinson's disease.

#### Axol Bioscience

For info: 800-678-2965  
www.axolbio.com

### Sample Cooler

The AirJet XR Sample Cooler from SP Scientific is designed to provide precision sample-temperature control ( $-90^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$ ) for nuclear magnetic resonance (NMR), electron paramagnetic resonance, and X-ray diffraction instruments using a mechanically refrigerated, temperature-controlled air stream. Unlike some systems that use expensive, expendable cryogenics such as liquid nitrogen or carbon dioxide, the AirJet XR requires only house-compressed air to control temperature. Long, nonmagnetic delivery lines allow positioning of the system remotely from your sample area—a particularly important consideration for NMR applications. Compact and affordably priced, the AirJet XR enables rapid transitions and precise control for flows up to 2 standard cubic feet per minute (SCFM), or 56 liters per minute (lpm). The AirJet XR may be controlled from a PC and includes several useful features, including independent over-temperature and low-flow cutout circuits as well as data logging.

#### SP Scientific

For info: 845-255-5000  
www.spscientific.com

### ISH Automation Assays

Bio-Techne has expanded the automation capabilities of its popular Advanced Cell Diagnostics RNAscope in situ hybridization (ISH) technology with several assays. The RNAscope VS Duplex Reagent Kit, developed for the DISCOVERY ULTRA automated IHC/ISH slide-staining systems from Roche, provides simultaneous in situ detection of two RNA species on an automated platform. This assay enables experiments such as colocalization studies and gene-expression profiling in specific cell types identifiable with known markers. The RNAscope VS Universal HRP and AP assays, integrate with Roche's mRNA Universal software for increased usability, with additional protocols allowing dual staining with immunohistochemistry or immunofluorescence. The updated RNAscope 2.5 VS Reagent Kit-BROWN and -RED assays for the DISCOVERY ULTRA deliver permanent and more intense staining. Bio-Techne's RNAscope assays permit robust, single RNA molecule detection even in formalin-fixed, paraffin-embedded (FFPE) tissues, without the RNA-free environment required in traditional ISH.

#### Bio-Techne

For info: 877-576-3636  
www.acdbio.com

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# Science

## New Products

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