



« New gas permeable Rayon microplate sealing film from Porvair

» The new Cedex XS cell counter and analyzer from innovatis



Way to grow

Cell culture tools

Cells are fascinating, mysterious, and at times, unpredictable. Below are some of the more useful tools that can help you get a handle on your cells.

The **Thermo Scientific Nunc UpCell Surface** enables harvesting of cells with high viability and intact surface proteins for culture passaging, single-cell analyses and cell transplantation research. Cells are disturbed minimally as scraping and trypsin are not used during harvest. Cell harvesting using enzymatic digestion, such as trypsinization, results in degradation of cell surface proteins. These proteins are important for the interactions between the cell and the environment. For example, cell surface proteins are involved in the cell's response to the extracellular matrix, to other cells, and to growth factors and other soluble mediators. Some cell surface proteins are involved in the ion homeostasis of the cell, whereas other cell surface proteins are used as antigens or markers in cell analysis and enrichment procedures. UpCell Surface is designed to respond to changes in temperature. It releases adherent cells by a simple reduction of the temperature of the cell culture. Products with UpCell Surface include Thermo Scientific Nunc MicroWell plates, multidishes and dishes. The covalently immobilized polymer poly(N-isopropylacrylamide), or PIPAAm, forms an even and thin layer on the cultureware. The PIPAAm layer is slightly hydrophobic at 37°C, allowing cells to attach and grow. When the temperature of the culture is reduced to below 32°C, the PIPAAm layer becomes very hydrophilic, binds water and

swells, resulting in the release of adherent cells. Depending on the degree of confluence of the culture, and the harvesting technique, single cells or cell sheets can be harvested from the UpCell Surface. Because the extracellular matrix under the cultured cells is harvested with the cells, cell sheets are naturally adhesive to other cell sheets and to cell surfaces in the body. With UpCell Surface, it is as simple as reducing the temperature and harvesting your cells. **More information: www.nuncbrand.com**

Porvair introduces a new gas permeable **Rayon microplate sealing film** that has been shown to improve culturing of mammalian cells, bacteria and yeast culture by up to 70% compared to an impermeable seal. Manufactured from high permeability, medical grade Rayon, the new heat sealing film provides a uniform air and CO₂ exchange with all microplate wells, unlike plate lids which favor exchange for wells near the plate edges. The innovative breathable membrane also reduces evaporation, enhancing longer term incubation experiments. Offering a high quality seal with all SBS/ANSI format microplates, the new easy-piercing gas permeable Rayon sealing film allows direct sample recovery with single or multi-channel pipettors and robotic probes. Designed for use with both manual and automated heat sealers, the new sealing film uses a non-cytotoxic adhesive to minimize sample cross-contamination. Though available

sterile, the new gas permeable, Rayon microplate sealing film cannot be autoclaved without reducing permeability. To complement its range of affordable, high performance plate sealers, Porvair offers an extensive range of adhesive and thermal sealing films and foils. Porvair sealing films and foils offer a convenient and effective method for sealing 24-, 48-, 96-, 384- and 1536-well microplates. Sealing a microplate minimizes evaporation and provides protection for samples during assay, storage, and shipment.

More information: www.porvair.com

innovatis introduces the new **Cedex XS Cell Analyzer**. Virtually anyone working in a lab can accurately count cells in as little as 15 seconds with the Cedex XS because it is factory calibrated and ready to use out of the box. The Cedex XS is a semi-automated, image-based cell analyzer capable of delivering cell concentration, viability using the Trypan blue exclusion method, cell morphology, cell aggregation, and growth data from sample volumes as small as 10µl, saving precious samples and reagents. Researchers reliably obtain accurate measurement data assisted by the use of Cedex Smart Slides; 8-well slides that enable multiple measurements in a single analysis that can be compared and averaged with the included software. The system software enables users to compare, review, store, publish and share cell data with colleagues for collaborative studies, and has the ability archive up to 5,000 mea-



« SCI-tive stem cell workstation by Ruskinn

» Corning 96-Well plate with Ultra-Web nanofiber surface



surements. Cedex XS software is based on Cedex 2 Software, developed for fully automated Cedex Cell Analyzers that have been accepted and in use at most of the leading pharmaceutical and biotechnology manufacturing facilities worldwide. Cedex XS is ready to use in seconds with operation as simple as power on, insert slide, deposit sample solution and begin analyses. High resolution, $0.88\mu\text{m}$ per pixel images are quickly acquired in color, as are diameter and compactness histograms and predictive statistical data. Detectable cell concentration range is 1×10^4 - 5×10^6 , cell diameter range is $4 - 180\mu\text{m}$ and the object diameter range is $2 - 180\mu\text{m}$. In addition to being easy to set up and use, Cedex XS is constructed of rugged steel and durable enough for use in an academic environment.

More information: www.innovatis.com

Ruskinn launches **Stem Cell Investigations Total In-Vitro Environment workstation (SCI-tive)** specifically designed for both embryonic and adult stem cell isolation, optimization, differentiation and incubation within a totally enclosed controlled culture environment. Working under controlled conditions is essential to ensure the cell differentiation process does not result in inappropriate cell types. Using the SCI-tive workstation, researchers are able to monitor the internal environment of the workstation and control temperature, humidity and gas concentrations. The small footprint of the SCI-tive workstation creates valuable laboratory space, with reduced need for other gas controlled incubators and Class 2 biological

safety cabinets. The Ezee Sleeve Bare-hand System enables all processes to be carried out within the workstation, while integrated microscopy and digital software makes whole process monitoring, tracking and calibration possible without disturbing the carefully controlled atmosphere. Controlled conditions during stem cell investigations can improve the rate of differentiation and the quality of stem cells produced. The SCI-tive workstation's *in vitro* environment assists compliance with the EU Tissues and Cells Directive. The SCI-tive workstation also incorporates Ruskinn's latest and most advanced gas mixing system - the Gas-Mixer Q - enabling cells to be examined under precise O_2 and CO_2 tension in hepa filtered air. Built for maximum ease-of-use, the Gas Mixer Q touch screen user interface enables accurate atmospheric control with easy to interpret visual displays and intelligent environmental stability monitoring. The one touch auto-calibration function means the user can check the O_2 sensor calibration without disrupting the delicate environment of the workstation. **More information:** www.ruskinn.com

Corning introduces **Ultra-Web Synthetic nanofiber surfaces** to improve the performance and functionality of cultured cells. These surfaces offer cells a more *in vivo*-like fibrillar topography that, unlike biological coatings, are more stable, more consistent lot to lot, and animal component-free. They can be modified by linking cell attachment and growth factors to improve the culture environment. Ultra-Web Synthetic Surfaces are

composed of randomly orientated electrospun polyamide nanofibers with an average fiber diameter of 280nm . This creates a culturing substrate that mimics structural components within the basement membrane or extracellular matrix. For harvesting, cells may be subcultured using standard cell dissociation techniques with trypsin, collagenase, or other enzymatic and non-enzymatic dissociation solutions or cell scraping. **More information:** www.corning.com ■

Companies Mentioned in this Product Spotlight:

Corning - www.corning.com

Innovatis - www.innovatis.com

Porvair - www.porvair.com

Ruskinn - www.ruskinn.com

Thermo Scientific - www.nuncbrand.com

KENYON
HOAG
ASSOCIATES

Your Expert in Marketing to the World of Science.
www.kenyonhoag.com

These pages were compiled and written by Kenyon Hoag Associates. The contents have not been reviewed by the editorial staff of The Scientist. Submit press releases for consideration to: spotlight@the-scientist.com