



« Miltenyi Biotec Peptivator mechanism

» The ActiPix D100 from Paraytec



Protein Power

New tools for your research lab

Proteins are arguably the most versatile molecules in life because of the electrical properties of their various amino acid residues and sequences. The tools below are unique to proteins and can help you get a better handle on these amazing molecules.

A mixture of recombinant, highly purified proteins, the **Protein Ladder**, from **New England Biolabs** will resolve into 12 sharp, evenly spaced bands when analyzed by SDS-PAGE. The consistent banding pattern provided by the Protein Ladder will help you achieve accuracy in determining the molecular weights of your protein samples. The Protein Ladder is suitable for analysis of a wide range of proteins. The easy-to-identify reference bands are sharp and uniform in the range of 10-250 kDa, and convenient band spacing enables accurate molecular weight determination. **More information: www.neb.com**

Paraytec announces the **ActiPix D100** UV area imaging detector, to enable fast and label-free quantification and sizing of proteins. As well as providing superior performance over existing micro and nano flow detectors the ActiPix D100 can be set up to detect analyte plugs in multiple detection windows on the same capillary. A new application report describes how it is possible to carry out protein quantification and sizing analyses within a capillary loop. Using a 3nl injection of a 1mg/ml-1 sample of Bovine Serum Albumine (BSA, 66 kDa) the UV absorption of the protein zone was recorded using two detection windows, before and after the capillary loop. The resultant UV absorptions were fitted

with HVL functions using PeakFit software to derive the area under the peaks which correspond to the amount of protein in the sample. The HVL parameters were used to estimate the diffusion coefficient and the size of the protein. Unlike traditional protein sizing techniques, such as Preparative Agarose Gel Electrophoresis (PAGE), the ActiPix D-100 method described requires only nanoliters of the protein sample and the whole procedure can be automated. Using the new method proteins do not require denaturation with SDS gel and can be analyzed in appropriate buffers at physiological pH. In addition by using the ActiPix D-100 method there is no need for staining or labeling and further assays can be carried out following sizing directly in the same capillary. **More information: www.paraytec.com**

Rockland Immunochemicals has developed a series of fluorescent **DyLight** dye conjugated antibodies. Fluorescence protein detection is routinely used in studying signaling pathways. Methods include microscopy, flow cytometry, high-content screening (HCS), western blotting and many other life science applications. The DyLight series of antibody conjugates offered by Rockland, including conjugates to DyLight 488, DyLight 549, DyLight 649, DyLight 680 and DyLight 800, is a versatile series of reagents with absorption spectra ranging

from 493nm to 770nm. These wavelengths match the principal output wavelengths of common fluorescence instrumentation. Rockland's DyLight conjugated antibodies exhibit narrow emission spectra, exceptional fluorescence intensity and superior resistance to photobleaching, enabling fluorescence imaging under the most demanding conditions. These Dye conjugates are suited to work with Rockland's Signaling Antibodies such as Akt, NFkB and Notch.

More information: www.rockland-inc.com

LYNX Rapid Conjugation Kits, from **AbD Serotec**, need just 30 seconds handling time for labeling primary antibodies with a wide range of fluorochromes and enzymes. The revolutionary one-step labeling technology ensures high conjugation efficiency with 100% antibody recovery. These easy-to-use kits save researchers both time and money, and are suitable for both large and small quantities of antibodies. The LYNX labels are covalently and directionally conjugated to the user's antibody in a controlled process at near neutral pH, requiring no subsequent desalting steps. This offers significant advantages over traditional labeling methods needing subsequent sample concentration and dialysis, where antibody loss is a risk and batch-to-batch consistency for experiments cannot be guaranteed. Whether conjugating micro-



gram or milligram quantities of antibody, the hands-on time using LYNX Kits remains 30 seconds. Therefore a researcher can trial-run conjugated antibodies, and optimize their application protocols in small scale before easily scaling up. **More information:** www.abdserotec.com

The **Activotec Activo-P11 Peptide Synthesizer** is an easy to use and affordable instrument for synthesis of very high quality peptides. The fully automated and enclosed system performs a wide range of reactions to synthesize peptides of any length in the 0.1 - 1.0mmol scale. Of particular interest is a new all-solid phase approach using the Activo-P11 for synthesizing cyclic peptide chitinase inhibitors as potential new leads for antifungal and anti-inflammatory drugs. The entirely on-resin synthesis on the Activo-P11 demonstrates significant improvements in speed and efficiency over traditional approaches. **More information:** www.activotec.com

Miltenyi Biotec introduces the **PepTivators**: high-quality peptide pools for antigen-specific immunostimulation of T cells. The first product of this novel product line is the PepTivator - CMV pp65. This peptide pool consists of 15-mer peptides with 11 amino acid overlap, covering the complete sequence of the pp65 protein of human cytomegalovirus (CMV). PepTivator - CMV pp65 is especially designed for efficient *in vitro* stimulation of CMV-specific CD4+ and CD8+ T cells. Upon stimulation with PepTivator - CMV pp65, pp65-specific T cells start to secrete effector cytokines and to upregulate activation markers, such as CD154, allowing the respective cells to easily be detected or isolated. **More information:** www.miltenyibiotec.com

« The P3 from Porvair

» The Activo-P11 Peptide Synthesizer by Activotec

Based on the industry standard Microplate design, the **protein precipitation plate, p3**, from **Porvair** uses the CRASH method allowing 96 samples to be handled simultaneously. Using the CRASH method, samples are treated with acetonitrile to denature the protein that is then filtered out. Protein precipitation happens *in situ* in the wells and the p3 solves all common problems with the traditional methodology. Incorporating a novel treated dual frit matrix the p3 eliminates wetting-out and leaking of sample through the plate before the application of vacuum. The treated frit matrix also maintains high flow rates enabling quick sample preparation times. The p3 plate has been tested independently and shown not to have any major adverse non-specific binding problems. It is the protein precipitation plate of choice for a growing number of major pharmaceutical companies. Adopting the footprint of a standard 96-well plate the p3 is readily integrated into automated systems offering the possibility of further productivity gains. **More information:** www.porvair.com

Assay Designs announces the **Hsp70 High Sensitivity EIA Kit** for the accurate and specific quantification of as little as 90pg/mL of inducible Hsp70 in serum and plasma samples from human, mouse, and rat origin. This assay does not significantly cross react with other Hsp70 family members such as Hsc70 (Hsp73), Grp78, DnaK (E. coli), or Hsp71 (M. tuberculosis) allowing for accurate and specific quantitation of Hsp70 in samples. Assay Designs Hsp70 High Sensitivity EIA Kit is the only product commercially available that is validated for the measurement of circulating Hsp70. This product has been specifically optimized for use with



serum and plasma, but has not been extensively validated for use with other sample matrices. The Hsp70 High Sensitivity EIA Kit features liquid color-coded reagents and a pre-coated 96 well plate that save lab time and reduce error. There is no need for cumbersome Western blot analysis of serum and plasma samples. A simple dilution of samples in the supplied kit assay buffer allows for the higher throughput analysis of up to 39 samples in duplicate per 96 wells in just 4.5 hours. The Assay Designs High Sensitivity Hsp70 EIA kit is designed to evaluate and monitor Hsp70, and provides a key research tool for the investigation of Hsp70's role in physiology and disease. **More information:** www.assaydesigns.com ■

Companies Mentioned in this Product Spotlight:

AbD Serotec - www.abdserotec.com

Activotec - www.activotec.com

Assay Designs - www.assaydesigns.com

Miltenyi Biotec - www.miltenyibiotec.com

New England Biolabs - www.neb.com

Paraytec - www.paraytec.com

Porvair - www.porvair.com

Rockland Immunochemicals - www.rockland-inc.com

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