

NEWSLETTER XXVIII

Innovative Tools for Molecular and Cell Biology

Cell Structure Probes

Organelle- and Membrane-Specific Stains

Features

- Bright fluorescence
- Multicolor selection
- Suitable for cell imaging and flow cytometry
- Validated protocols

ABP Biosciences offers a diverse selection of cell structure probes to specifically stain from organelle and membrane to whole cell. These small organic stains have been widely used as counterstains to identify the location of specific proteins and targets of interest within the cell while detection of antibodies against proteins associated with specific organelles can lead to a better understanding of cellular function.

Simply Add, Incubate, & Image

EasyProbes[™] reagents are specially formulated readyto-use cell imaging solutions designed to stain cells without calculation, dilution, or pipetting. EasyProbes[™] reagents are supplied in dropper bottles. Just tip & drip two drops of stain solution to the cell slide and you are ready to image.

Fluorescence Labeling and Detection Strategies

More Innovative Products Featured by ABP Biosciences

- DNA and Protein Gel Stains High sensitivity, nontoxic
- Nucleic Acid Assays For quantitation of DNA or RNA
- Andy Fluor[™] Dyes A selection of dyes across the spectrum for multiplexing & multicolor detection
- Cell-functional assays (apoptosis, viability, proliferation)
- ILink™ Antibody Labeling Kits
 - Simple workflow Add, mix, and ready-to-use
 - Fast Covalently labeling of your antibody in 30 min
 - Multicolor Choose between different Andy Fluor dyes
 - The new labeling technology provides unprecedented convenience for multicolor immunostaining



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A Spin-Off Company from Molecular Probes

Magnetic Beads

MagSi Beads for DNA Isolation & Purification

MagSi-DNA Beads can be used as a solid support phase for DNA extraction and purification by using a simple bind/ wash/elute principle. They are intended for individual development of protocols and available with a wide range of physical properties.

Features

- Great selection of silica and carboxylated silica beads
- Intended for nucleic acid isolation from various sources (blood, cells, bacteria, etc.)
- For manual and automated workflow





MagSi-DNA Trial Kit

Choose from 8 Types of MagSi Beads

A complete set of 8 types of MagSi beads for genomic applications, offered in a single kit for screening purposes.

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TECHNOLOGY

Ion Indicators

Next Generation of Enhanced Ion Indicators

- Calcium, potassium, and sodium indicators
- pH indicators detect physiological changes of no more than a few tenths of a pH unit
- Extremely low-priced
- Intense fluorescent signals over a range of different wavelengths

Ion changes are central to many fundamental processes such as muscle contraction as well as synaptic nerve signal transmission. Homeostatic regulation of these ionic gradients is critical for most cellular functions. Developing probes for measuring ionic concentrations with both spatial and temporal resolution has become essential in research ranging from drug discovery to studies of neuronal function.

Fluorescent Biosensors for Live-Cell Imaging

Neurodegeneration

Imagine looking at primary cultures of mixed cell types from the brain of a mouse model of Huntington's or Parkinson's disease. Most of the cells are healthy, however a small percentage, at any particular moment, are stressed by the protein products of their mutant allele and you can see these cells because they are bright green. Monitor cell signaling simultaneously with a red fluorescent sensor for Ca²⁺, cAMP, or DAG. Screen for drugs that reverse stress by detecting fluorescence loss...



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- BacMam vectors for efficient delivery to primary or iPSC-derived neurons
- Targeting to microdomains & specific neuronal cell types
- Monitor disrupted signaling pathways and cell stress simultaneously
- Monitor fluorescence changes on an automated plate reader or imaging system

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MoBiTec -

GENOMICS

Advance Your Diabetes Research

Peptides, Assay Kits, & Antibodies

Diabetes is a growing epidemic whose prevalence is expected to increase from 415 million to 642 million worldwide by 2040. This chronic disease is associated with either insulin deficiency (type I) or insulin resistance (type II). AnaSpec boasts an essential collection of research tools specifically for diabetes and related metabolic disorders.

Peptides

- Large selection of diabetes-relevant peptides like C-peptides, Incretins, Exendins, and more
- Long-standing peptide expertise (more than 25 years)
- Specialized in complex peptides such as hydrophobic peptides or those with multiple modifications
- Custom and catalog peptides
- 1 mg to gram quantites

Antibodies

- Optimized Antibody/Epitope design & production
- Both polyclonal (different hosts) & monoclonal (from hybridomas) production

ELISA Kits for Bone-Related Diseases

Osteoporosis, Fasciitis, & Arthritis

The skeleton is a metabolically active organ that undergoes continuous remodeling throughout life. Bone metabolism is regulated by many systemic hormones and locally acting substances. Systemic hormones can be divided into two groups: hormones affecting the metabolism of calcium and phosphates and other systemic hormones. Elabscience provides high-quality ELISA kits related to common bone-related diseases.

Why Choosing Elabscience ELISA Kits?

- High precision both inter and intra CV are < 10%
- High sensitivity pg level
- High specificity cross-reactivity < 10%</p>
- Over 3000+ choices wide range of species reactivity
- Flexible choice on size 48T / 96T / bulk order size
- Kits contain all reagents needed easy-to-use
- Competitive pricing





SensoLyte® Assay Kits

- Diabetes-related assays, including FRET & fluorogenic substrates
- Highly sensitive detection of enzyme activities
- Compatible with high-throughput screening (HTS) for use in drug discovery
- One-step homogeneous assays

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IN VITRO DIAGNOSTICS AND ASSAYS

MoBiTec



Elabscience is a supplier of high quality Proteins, Antibodies, ELISA Kits, CLIA Kits, Labeling Kits, and Biochemical Kits. They offer over 3000 ELISA kits for 23 kinds of human diseases, including: oncology, pediatric, neurological, digestive system, and gynecological diseases. Their products are cited in top publications.

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Protein Purification

Spin-Column-Based Protein Extraction / Cell Fractionation

The Minute[™] Benefits

- Super-fast (as quick as 1 minute)
- Small sample size
- Complete profile
- Unaltered endogenous baseline
- Kits for all living organisms and tissue types available

The Minute[™] Applications

- Protein trafficking/translocation
- Protein-protein interaction
- Protein modification
- Signal transduction
- Daily protein analysis



minute

Changing The Speed of Science!



PROTEOMIC

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PROTEOM

Membrane Research

Detergent-Free Solubilization of Membrane Proteins

Styrene-maleic acid (SMA) copolymers are broadly used for function and structure studies of membrane proteins. The significant advantages of using SMA copolymers include (1) generating a detergent-free system and (2) forming bilayer nanodiscs with phospholipids. Application of SMA copolymers opens an avenue of membrane protein extraction from cell membranes and proteoliposomes in the absence of detergent. The extracted membrane proteins are stabilized in the nanodiscs that mimic the bilayer structure of lipids in nature.

Benefits

- Structural and functional studies on membrane proteins in a near-native environment
- Prevents protein misfolding or aggregation
- Unlike detergents, which tend to strip away most or all lipids in the direct environment of a membrane protein, SMA extracts proteins in form of a lipid/ protein nanodisc
- Enables the study of protein-lipid, protein-protein, and protein-ligand interactions



ProFoldin's SMA copolymers are optimal for nanodisc formation:

- Styrene:maleic acid ratios of 2:1 or 3:1 are the best for membrane proteins
- Molecular weights of 8 kDa and 10 kDa are ideal for nanodisc formation
- Pre-hydrolyzed and ready to be dissolved in common buffers
- No need for pH adjustment





Evaluation of Enzyme Inhibitors

Lessening Cardiovascular Risk Factors



The impact of Acetyl-CoA carboxylases (ACCs) on eukaryotic metabolism and metabolic-related disease states is profound. Inhibition of ACC isoforms could be advantageous for lessening many cardiovascular risk factors linked to obesity, diabetes, insulin resistance, and metabolic syndrome.

This strategy has captured the attention of pharmaceutical giant Pfizer, which has filed a series of patent applications relating to ACC inhibitor compounds. Each patent and patent application details the use of Transcreener ADP² FP.

Transcreener[®] HTS Assays

- Transcreener assays rely on direct immunodetection of nucleotides, which is little susceptible to interference
- Four types of Transcreener nucleotide detection assays enable you to screen thousands of target enzymes
- Your choice of FP, FI, and TR-FRET readouts; all with far-red fluors and certified performance on major multimode readers

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Lupus Drug Discovery



Transcreener ADP² assay enables evaluation of NIK inhibitors for lupus drug discovery. Systemic lupus erythematosus (SLE), or lupus, takes a devastating toll. An autoimmune disease that triggers a dysfunctional immune system to attack its own tissues. SLE strikes young women most often - about 4 to 12 times more frequently than men - with women aged 15 to 45 being at highest risk. Both genetic and environmental risk factors are suspected.



Mix-and-Read Simplicity

Fewer steps mean faster results, limited interference, less robot programming, and a lower probability for error.

Ingenio[®] EZporator[®] Electroporation System

A New, Easy-to-Use Electroporation System

- Performance: deliver any nucleic acid to hard-totransfect, stem, and primary cells
- Simplicity: use a single, universal electroporation solution across all cell types
- Flexibility: easily optimize electroporation parameters for each cell type
- Every system comes with a complimentary Ingenio[®]
 Electroporation Kit (8 reactions) and an easy-to-use protocol

Electroporation is the method of choice for many hardto-transfect cell types, and the Ingenio EZporator Electroporation System is a cost-effective, straightforward, open system that is perfect for any lab seeking performance without breaking the bank.



A cost-effective electroporation solution for high-efficiency transfection of mammalian cells!



SUPPLIES

