

# NEWSLETTER XXVI

Innovative Tools for Molecular and Cell Biology

## Lipid Research

INTERACTION  
SCREENING  
MoBiTec

### Assays and Reagents to Study Lipid Signaling Pathways For Basic Research and Drug Development

#### Most Popular Assays from Echelon

- Hyaluronic Acid (HA) ELISA & HA Sandwich ELISA
  - HA plays an important role in wound repair, tissue hydration, and inflammation
- Lysophosphatidic Acid (LPA) Assay Kit II
  - LPA is a serum-derived phospholipid involved in cell proliferation, angiogenesis, and tumor invasion
- PI(4,5)P2 Mass ELISA
  - PI(4,5)P2 is a ubiquitous lipid implicated in cell growth, motility, inflammation, and apoptosis
- PIP3 Mass ELISA
  - PIP3 is important in multiple cell signaling pathways

#### PIP Strips – Protein-Lipid Interaction

- Hydrophobic membranes that have been spotted with phosphoinositides & other biological important lipids
- Lipid-protein overlay assay
- Simultaneous screening of multiple lipids
- From Science to Nature to Cell, there are hundreds of publications citing PIP Strips from Echelon

#### New Products

- Lysosomal PLA2 Inhibitor Screen
  - For predicting drug-induced phospholipidosis
- Assays for Sphingosine-1-Phosphate Pathway
  - S1P plays an important role in liver disease/regeneration
- SHIP Assays for Obesity and Diabetes Research
  - SHIP1 and 2 are inositol phosphates involved in insulin signaling and metabolic disorders
- Antibodies to Phosphoinositides & other Key Lipids
  - Continually expanded portfolio

MEP/Isoprenoids  
CA-Peptides  
Sphingolipids  
Phosphoinositides  
Lipids  
Autotaxin  
Drug Discovery  
LIPIDOMICS  
Hyaluronic-Acid  
PI3-Kinase



**Accelerate** the development of potential drugs and new diagnostics for cancer, diabetes, inflammation, infections, and cardiovascular disease with Echelon's tried and trusted top sellers!

distributed for



The Leader in Lipid Research

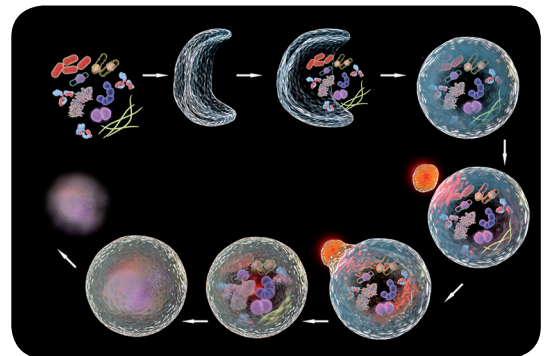
# Autophagy

IN VITRO DIAGNOSTICS  
AND ASSAYS  
MoBiTec

## p62 ELISA Kits and Antibodies

p62 is a receptor for cytoplasmic cargo (proteins and organelles) destined to be degraded by autophagy, including ubiquitinated protein aggregates destined for clearance. The p62 protein is able to bind ubiquitin and also LC3, thereby targeting the autophagosome and facilitating clearance of ubiquitinated proteins. Phospho-p62 is a hot topic in research on neuro-degenerative disease and cancer.

- p62 ELISA kits are useful as verification for autophagy
- For the detection of total p62 or phosphorylated p62
- Exclusive source for p62 ELISA kits that target p62 phosphorylated at Ser349 and Ser403
- Also available: p62 antibodies and comprehensive autophagy antibody portfolio



distributed for **MBL**<sup>®</sup>  
International Corporation

# Fluorescent Dyes & Probes

FLUORESCENCE  
TECHNOLOGY  
MoBiTec

## AnaSpec

### Premium Stand-Alone Reactive Dyes

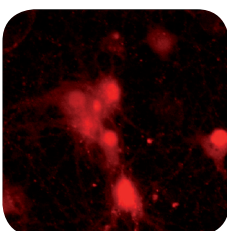
- Dyes are widely used to modify amino acids, peptides, proteins (in particular, antibodies), oligonucleotides, nucleic acids, carbohydrates, etc., and to detect cellular organelles and molecules
- **HiLyte™ Fluor Dyes**
  - A series of excellent fluorescent labeling dyes spanning the visible and near-infrared spectrum
  - Prices are around 40% lower than Alexa Fluor™ series!
- **CyLyte Fluor Dyes**
  - A cost effective replacement for Cy® dyes!

Alexa Fluor™ is a registered trademark of Invitrogen  
Cy® is a registered trademark of GE Healthcare

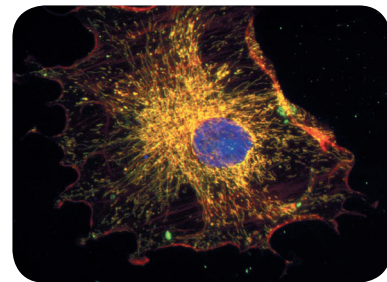
## TEFLabs

### Proprietary Fluorescent Ion Indicators

- To track Ca<sup>2+</sup>, Na<sup>+</sup>, K<sup>+</sup>, and other ion concentrations in living cells with intense fluorescent signals and a range of wavelength options
- Low-priced (trial-sizes for ~ 20,- €)
- Bestseller: **Asante Calcium Red, Asante Natrium Green & Asante Potassium Green**
- New at TEFLabs: Fluo-3 and Fluo-4 – most commonly used non-ratiometric high-sensitivity Ca<sup>2+</sup> indicators



Neurons stained with  
Asante Calcium Red

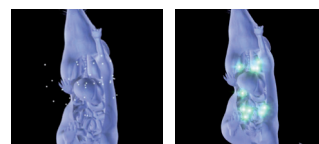


Bovine pulmonary artery endothelial cells  
visualized with different HiLyte Fluor Dyes

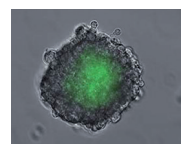
## GORYO Chemical

### Next Generation Fluorescent Probes for Live-Cell Imaging

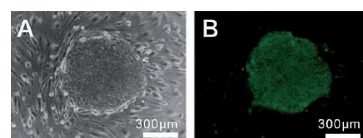
- **ProteoGREEN™-gGlu** – For specific detection of cancer cells
  - Probe is rapidly activated by γ-glutamyltranspeptidase (GGT), a tumor-associated enzyme
- **MAR** – Hypoxia detection probe
  - Detects even mild hypoxia when O<sub>2</sub> concentration is around 5% in living cells
- **Kyoto Probe 1 (KP-1)** – Evaluation of iPS/ES cells
  - Distinguish human iPS/ES cells from differentiated cells



ProteoGREEN-gGlu can be sprayed on internal organs for specific localization of cancer



Detection of hypoxia inside of spheroids with MAR



Staining of iPS colony formed on feeder cells with KP-1

# Reagents for Molecular Biology

Chemicals  
and Buffers  
MoBiTec

## Antibiotics • Enzymes • Protease and Phosphatase Inhibitors • Cloning

### Features

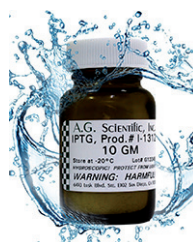
- Highly price competitive
- Quality-assured reagents from small-scale to bulk orders, comprehensive documentation
- Well-established supplier of renowned pharmaceutical and life sciences companies

### Bestseller

- Proteinase K, Beta-Lactamase
- Blasticidin, Hygromycin, G-418
- AEBSF, Aprotinin, E-64 (also available: special inhibitor cocktails)
- IPTG and X-Gal



Distributed for AG Scientific



### Order Information (Selection)

Order No.	Description	Amount
<b>P1265-50mgAG</b>	Proteinase K	50 mg
<b>A1420-25mgAG</b>	Aprotinin, bovine lung	25 mg
<b>P1514-1VialAG</b>	Protease Inhibitor Cocktail V, EDTA-Free	1 Vial
<b>I1312-1gAG</b>	IPTG	1 g

## Ultra-Sensitive Methyltransferase Assay

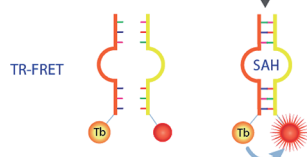
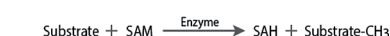
INTERACTION  
SCREENING  
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### AptaFluor® SAH Methyltransferase Assay

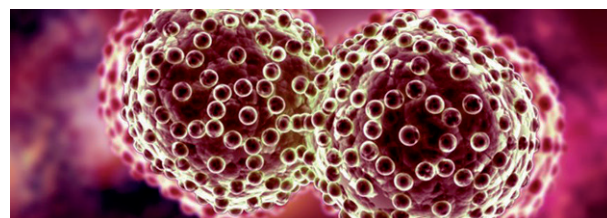
The AptaFluor SAH Methyltransferase Assay uses a natural occurring aptamer, or riboswitch, that selectively binds SAH, the invariant product of methyltransferase reactions. The exquisite affinity and selectivity of the aptamer combined with a positive TR-FRET signal enable screening and profiling of methyltransferases with unparalleled sensitivity.

### Features

- Universal enzymatic assay - use with virtually any SAM dependent methyltransferase
- Ultra-sensitive with LLD of 0.61 nM SAH - perfect for low turnover MTases
- Easy to use mix-and-read homogeneous assay
- Direct detection of SAH with a positive TR-FRET readout
- Outstanding reagent & signal stability greater than 8 hours
- Robust assay with Z' values greater than 0.7 under initial velocity conditions

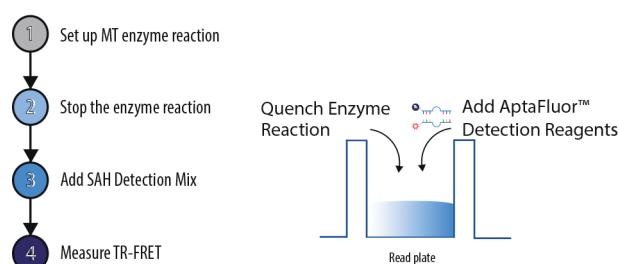


Direct Detection of SAH with a TR-FRET Readout



### A Novel Approach Discovers Hundreds of Cancer-Relevant Arginine Methylation Sites for CARM1

CARM1 belongs to the protein arginine methyltransferase family. The enzyme acts specifically on histones and other chromatin-associated proteins. Find new methylation sites or discover methyltransferase inhibitors using advanced screening methods such as the new AptaFluor SAH Methyltransferase assay!



### Simple Mix & Read Format

distributed for BellBrook Labs



## Exosome Isolation Tools

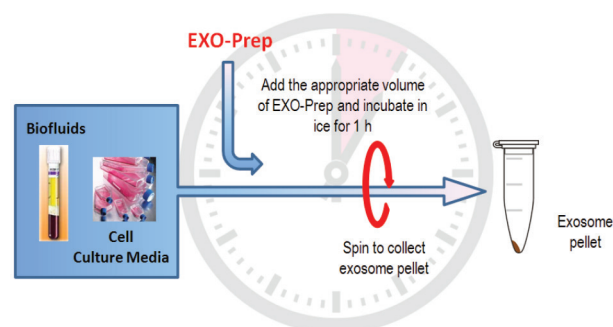
### PURE-EVs SEC Columns

- Size exclusion chromatography (SEC) columns
- Exosome isolation from biofluids and cell media
- Isolated exosomes are suitable for multiple analyses
- Easy and quick protocol (15 min)



### EXO-Prep

- Based on chemical precipitation
- Easy one-step method for total exosome isolation from biofluids and cell culture media
- Isolated exosomes are suitable for NTA analysis and for protein & nucleic acid profiling

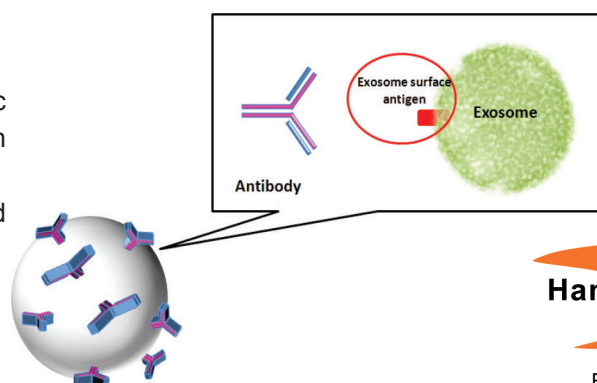


### Immunoplates

- 96-multiwell plates covalently pre-coated with specific exosome-binding antibodies
- For exosome immunocapture using generic or specific exosome-associated biomarkers (e.g., tumoral, neural, and glial derived)

### Immunobeads

- Latex immunobeads for generic and specific exosome immunocapture from human biofluids or cell supernatants
- Immunocaptured exosomes can be recovered and used for downstream analyses



distributed for

**HansaBioMed**  
Life Sciences

Part of **Lonza**

## Mini Columns

LAB  
SUPPLIES  
MoBiTec

### MobiSpin Columns for Nucleic Acid Purification

#### Features

- For separation of DNA & RNA from small contaminants
- Size-exclusion chromatography columns
- Columns are pre-packed and ready-to-use
- Easy handling: spin, load sample, spin, and collect the purified product (less than 3 minutes)
- No sample dilution, ideal for small sample volumes

The MobiSpin columns are designed for a wide variety of nucleic acid purification applications. Next to our MobiSpin columns with Sephadex® G-50 resin three different Sephacryl® resins are available: S-200, S-300, and S-400.

**Ask for  
Free Samples!**



MobiSpin S-400 – Recommended by the German Federal Institute for Risk Assessment (BfR) for the Detection of Norovirus in Food

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# Fluorescent Detection of Cellular Stress & Toxicity

FLUORESCENCE  
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## Cell Stress Sensor Kit

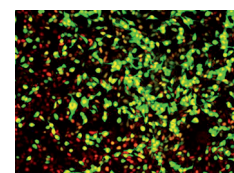
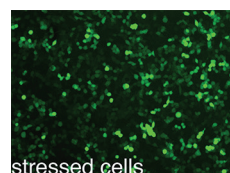
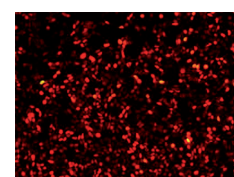
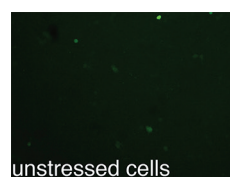
The cell stress sensor is a genetically encoded fluorescent biosensor that produces very bright fluorescence when the cell endures endoplasmic reticulum (ER) stress or undergoes the unfolded protein response (UPR). A great number of both chemical compounds and genetic mutations can induce ER stress.

### Features

- Live-cell assay
- Bright green fluorescence response
- Plate reader or microscope compatible
- Simple protocol, fast results, reversible detection
- Single-color or two-color stress sensor available

### Application

- Detect cellular stress from: neurodegenerative diseases, cancer, ischemia, diabetes, unfolded protein response
- Detect cellular toxicity from: drug-induced toxicity (chemotherapeutics), compound toxicity (Tox21 library), protein overexpression



Single-color detection of cell stress.

A dual-color stress sensor allows internal normalization for changes in cell viability and gene expression.

distributed for  **Montana Molecular**  
Fluorescent Biosensors for Live Cell Discovery

### Order Information (Selection)

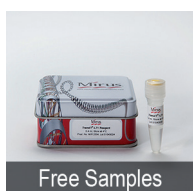
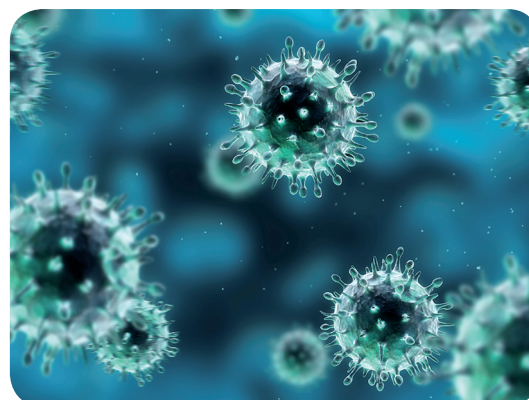
Order No.	Description	Amount
U0900G-10	One-Color Green Cell Stress Sensor	10 ml Kit
U0901G-10	Two-Color Ratiometric, Green Cell Stress (Nuclear localized), Constitutive Red (Nuclear Localized)	10 ml Kit

## Virus Production

CELL  
BIOLOGY  
MoBiTec

### TransIT® Transfection Reagents for High-Titer Virus Production

- Produce viruses confidently with validated and highly cited Mirus products:
  - *TransIT®-VirusGEN™* for high-titer recombinant AAV & lentivirus production
  - *TransIT®-Lenti* for recombinant lentivirus production in 293T cells
  - *TransIT®-LT1*, *TransIT®-293*, and *TransIT®-2020* for recombinant DNA virus production
  - *TransIT®-mRNA* for recombinant RNA virus production
  - *TransIT®-Insect* for recombinant baculovirus production
- Increase virus titers with high efficiency, low toxicity transfection reagents
- Decrease production time by using lower quantities of nucleic acids and serum-compatible reagents



**Prove It to Yourself!**



Product Details

distributed for

**Mirus**



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**TEFLABS**  
Empowering Research

  
**BPBio**  
Ubiquitin-Proteasome Biotechnologies

  
...the Way to the correct results

  
**ZJ BIO-TECH**

••• For the most up-to-date listing of our supplier companies please visit our website •••



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