NEWSLETTER #31
Q3/2020

Mo Bi Tec
MOLECULAR BIOTECHNOLOGY

Innovative Tools
for Molecular and Cell Biology

Topics in this issue:

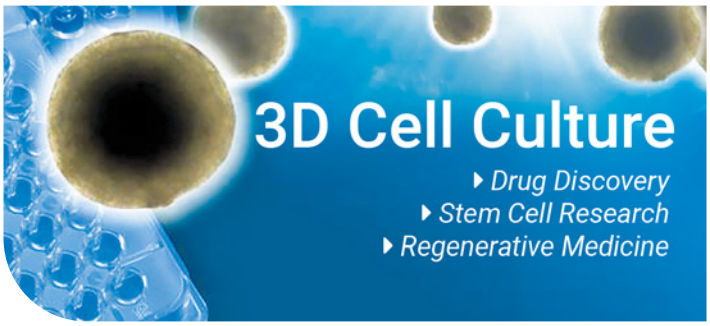
Scaffold-Free

Spheroid Research

PrimeSurface® 3D Culture Spheroid Plates

Ultra-Low Attachment Plates

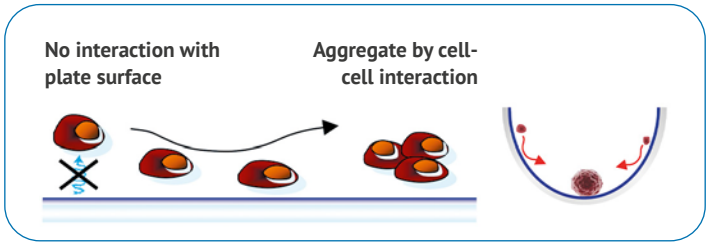
Spheroids are widely used multicellular 3D models that form by cell-to-cell aggregation through naturally secreted extracellular matrices. They can be generated from a broad range of cell types, including tumor spheroids, embryoid bodies, hepatospheres, neurospheres, and mammospheres.



PrimeSurface cultureware are ultra-low attachment (ULA) dishes and plates that promote scaffold-free self-assembly of spheroid formation. The plates are pre-coated with a unique ultra-hydrophilic polymer that enables spontaneous spheroid formation of uniform size and shape.

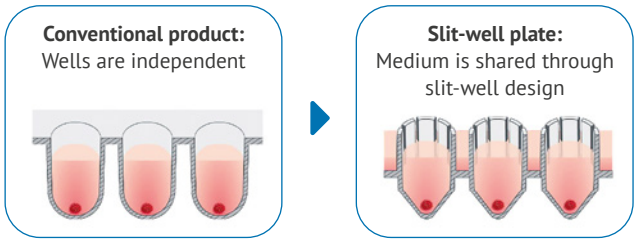
Benefits

- A variety of well shapes to enable spheroid culturing of your specific cell type
- Easy handling, compatible with liquid robotic systems
- Compatible with bright-field and fluorescence imaging systems like NoviSight 3D High Content Analysis by Olympus, Spheroid Applications on IncuCyte® by Sartorius, etc.



PrimeSurface series are coated with a unique biocompatible ultra-hydrophilic polymer that covalently binds to the plastic surface and effectively inhibits cell attachment. The superior coating technology and manufacturing process offer uniform spheroid/embryoid bodies formation and a smooth surface to obtain clear cell images.

PrimeSurface® 96 Slit-Well Plates



Minimize media exchange time by over 80% through simultaneous delivery of cell culture media to all 96 wells.

PrimeSurface® 3D Culture Spheroid White Plates

Generate & analyze spheroids by chemiluminescent assays in the same microplate. For streamlined high-throughput drug screening!

For Applications That Require Consistency and Reproducibility

Request a free sample!

distributed for Sbio®

Proteomics

Peptides

distributed for ANASPEC

Antimicrobial Peptides Represent a Promising Therapeutic Approach in the Post-Antibiotics Era

Antimicrobial peptides (AMPs), also referred to as host defense peptides, are short peptides found in a wide variety of life forms from microorganisms to humans. Many AMPs exhibit an extraordinarily broad range of antimicrobial activity covering both Gram-positive and Gram-negative bacteria as well as fungi, enveloped viruses, and unicellular protozoa.

AMPs or their optimized derivatives ...

- can be used as broad-spectrum antibiotics
- display a rapid killing ability
- are effective against multi-drug-resistant bacteria
- inhibit biofilm formation or reduce/ eradicate mature biofilms
- show a complex, often multimodal antimicrobial action which makes it difficult for microbes to develop durable resistance mechanisms

AnaSpec offers a comprehensive range of AMPs, including inhibitors of biofilms, mammalian defensins, cathelicidins, magainins, etc. Browse the complete portfolio online.

COVID-19
AnaSpec also offers a full range of proteomics solutions (peptides, fluorescent dyes, and enzyme assays) for SARS-CoV-2 research, diagnostics, and vaccine development.

Glycobiology

Carbohydrate Synthesis and Analysis

distributed for Dextra

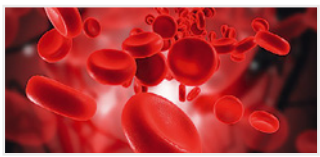
Dextra Laboratories has gained a world-wide reputation for the supply of rare sugars, oligosaccharides, and chiral molecules for medical research, diagnostics, and pharmaceutical applications. With over 1000 complex sugars available, Dextra is the most comprehensive source of products for exploiting the complexity and diversity of glycobiology.

Selection

- Blood Group Products
- Glycans
- Heparin- & Chondroitin-derived Oligosaccharides
- Imino Sugars
- Mono-, Oligo-, and Polysaccharides
- Neoglycolipids
- Neoglycoproteins
- Pharmaceutical Intermediates and Diagnostics

Glycans play important roles in both the normal function of cells and in disease. They assist in the folding of many proteins, differentiate blood groups, and contribute to innate and adaptive immune responses. They are also implicated in the process of infectivity for many pathogenic bacteria and most viruses (including influenza and SARS-CoV).






Glycoproteins and Carbohydrates –
Prospective targets of next-generation therapeutics, vaccines, and diagnostics.

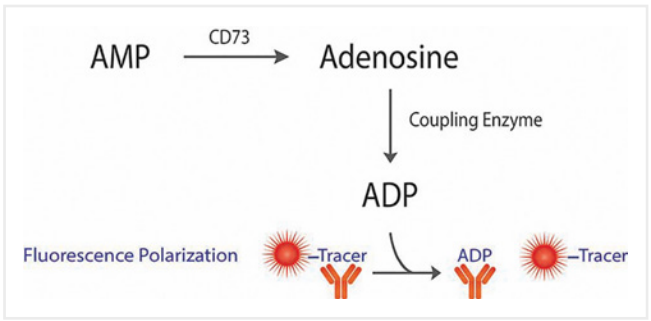
Interaction Screening

Enzyme Assays for Drug Discovery & Basic Research

distributed for BellBrook Labs

Transcreener® CD73 Assay – Discover New Therapeutics to Enhance Tumor Immunity

The new Transcreener CD73 Assay measures adenosine production by CD73. Adenosine is an immunosuppressive molecule. Suppressing the immune response is one way cancer cells can remain active and prolific. The assay will accelerate efforts to discover selective CD73 antagonists for cancer immunotherapy by enabling high-throughput screening, structure-driven hit-to-lead, and mechanistic studies with the purified enzyme.



Detection of Adenosine to Measure CD73 Enzymatic Activity

Applications

- Measure enzymatic activity of CD73
- Screen compound libraries for CD73 inhibitors
- Quantify inhibitor potency (IC50)

Features

- Detection of unlabeled Adenosine
- Easy-to-use, homogenous, one-step format
- Far-red fluorescent readout minimizes compound interference; validated on major multimode readers

Discover the Transcreener® Platform:
Four assays cover thousands of target enzymes, including any kinase, ATPase, or GTPase.

Lipidomics

ECM Biology: Extracellular Glycan Assays

distributed for Echelon Biosciences

Hyaluronic Acid Quantification

Next to its huge portfolio for Lipid Research, Echelon offers a unique Hyaluronic acid (HA) product line. HA, also called hyaluronan, is a glycosaminoglycan distributed widely throughout connective, epithelial, and neural tissues. The molecule is also present in human blood samples and synovial fluids.

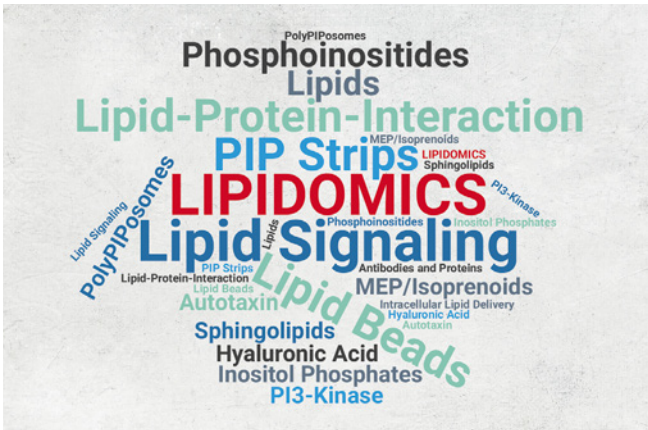
As one of the main components of the extracellular matrix, HA contributes significantly to cell adhesion, cell proliferation, and migration.

Hyaluronidases degrade HA and are involved in fertilization and wound healing.

Select-HA™ – For Tight Size Control
Both hyaluronic acid concentration and its molecular weight changes in certain diseases. Using monodisperse hyaluronic acid standards, the molecular weight of HA can now be determined by gel electrophoresis.

Simple and proven quantification of Hyaluronic Acid & Hyaluronidase Activity in various biological samples:

- Hyaluronan Enzyme-Linked Immunosorbent Assay (K-1200)
- Hyaluronic Acid Sandwich ELISA (K-4800)
- Hyaluronidase Activity ELISA (K-6000)



Genomics

Nucleic Acid Purification

distributed for ABP Biosciences

EasySC Viral DNA/RNA Purification Kit

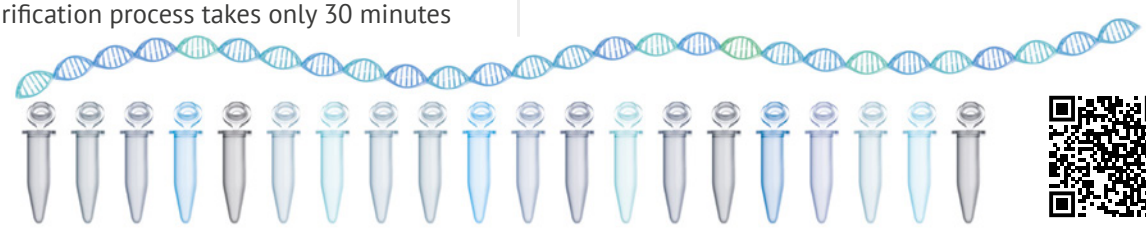
EasySC Viral DNA/RNA Purification Kit is designed for the isolation of viral DNA/RNA from serum, plasma, blood, urine, cell culture media, saliva, homogenized tissue suspension, fecal, and swab samples. The kit features a buffer system that facilitates complete viral particle lysis for efficient nucleic acid isolation. Viral DNA/RNA is bound by the spin column, washed, and eluted. The isolated high-quality DNA/RNA is ready for downstream applications such as NGS, hybridization-based, and RT-qPCR detection.

- High Sensitivity – Detection of ⩾ 10 viral copies
- Fast – Purification process takes only 30 minutes

EasySC Plasmid Mini Purification Kit

EasySC Plasmid Mini Purification Kit is designed to isolate up to 30 µg of high-quality plasmid DNA from 1-6 ml bacterial cultures. After alkaline lysis plasmid DNA is purified using spin column technology. Purified plasmid DNA is ready for a variety of downstream applications such as routine screening, restriction enzyme digestion, transformation, PCR, and sequencing.

- Rapid – Purification of plasmid DNA in less than 30 minutes
- Safe – No Phenol/Chloroform extractions



Budget-Friendly Nucleic Acid Purification Tools | Also available: magnetic beads-based kits for HTS

Genomics

Cell Line Specific Transfection

distributed for Mirus

*Trans*IT®-293 Transfection Reagent

*Trans*IT®-293 Transfection Reagent is specifically optimized to provide exceptional transfection efficiency of plasmid DNA in HEK 293 and cell types of associated lineage. It provides high transfection efficiency, low toxicity, serum compatibility, simplicity of use, and reproducibility. Transfections with *Trans*IT-293 Reagent do not require medium changes. It is suitable for both transient and stable transfection and can be used for many applications such as gene expression, viral production, shRNA expression, and promoter analysis.

Ideal for use in **VIRUS PRODUCTION**

- Maximize transfection performance in HEK 293 cells
- Achieve 75-85% transfection efficiency to ensure experimental success
- Deliver single or multiple plasmids
- Maintain cell density and reduce experimental biases

Mirus Products Speak for Themselves in Quality & Performance.
Request a free sample!

Fluorescence Technology

Live-Cell Assays for COVID-19 Drug Screening

distributed for Montana Molecular

Fluorescent Assays for SARS-CoV-2 Viral Entry

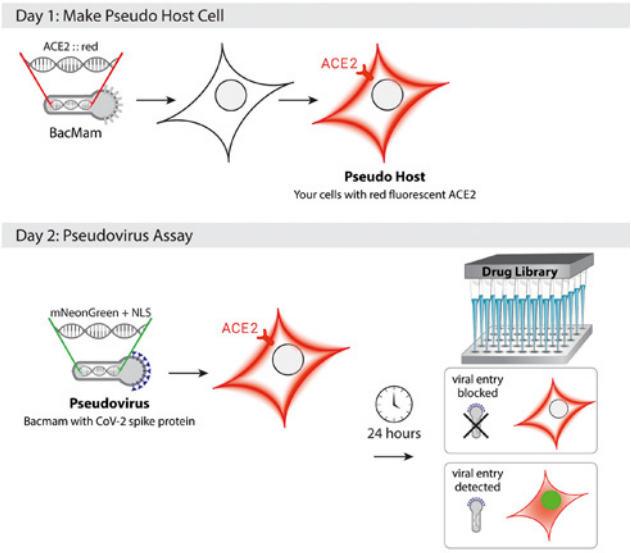
- Detect host-pathogen interaction in living cells
- Identify therapeutic drugs that block ACE2-mediated viral entry
- Screen for neutralizing antibodies to SARS-CoV-2 spike and emerging spike variants
- Cost effective screening with minimal safety requirements
- Your choice of host cell

SARS-CoV-2 Pseudovirus

This pseudovirus is a modified BacMam vector that presents SARS-CoV-2 spike protein on the surface of the BacMam capsid. The spike protein facilitates entry into cells expressing ACE2 and TMPRSS2. Once inside the cell, BacMam does not replicate, but delivers a genetically encoded, fluorescent reporter that expresses bright red or green fluorescence in the host cell nucleus. When viral entry is successfully blocked, the host cell nucleus is dark. Pseudo SARS-CoV-2 is safe to use with no risk of infection and requires only BSL-1 handling.

Pseudo Host Cells

To transform any cell into pseudo host cells, we offer red and green fluorescent ACE2 and TMPRSS2 in BacMam expression vectors. After transduction host cells are ready for the viral entry assay.
If the pseudovirus enters the cells, it will produce bright fluorescence in the nucleus. A significant advantage of creating pseudo host cells is that compounds blocking viral entry can be screened using standard cell lines that are compatible with high-throughput screening.



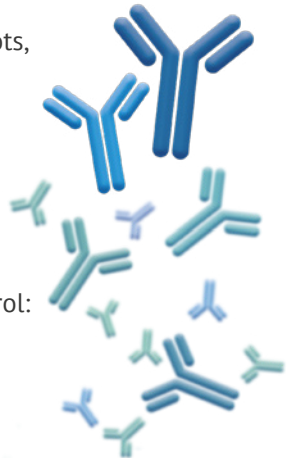
- No BSL-3 safety requirements
- Discover compounds that can block host infection

Antibodies

Anti-Tet-Repressor Antibodies

Mo Bi Tec MOLECULAR BIOTECHNOLOGY

For Studying the Tet Regulatory System in Eukaryotic Cells



- Suited for ELISA, Western blots, and Immunofluorescence
- Excellent binding properties
- Monoclonal IgG1; kappa
- Polyclonal rabbit IgG
- Immunogen: TetR(B)-tetO
- Recommended positive control: Tet-Repressor Protein

The Tet-Repressor protein (TetR) regulates transcription of a family of tetracycline resistance determinants in Gram-negative bacteria.

The tetracycline (tet) regulatory systems are widely used for selective gene expression in eukaryotic cells. They exhibit tight on/off regulation, absence of pleiotropic effects, high induction levels, high absolute expression, and rapid induction times.

MoBiTec offers a unique set of polyclonal and monoclonal antibodies targeting the Tet-Repressor protein TetR(B).

- The TetR antibodies greatly simplify the process of developing a Tet-inducible expression system by providing a method for early detection of transactivator proteins.

Genomics

Purification of PCR Products

distributed for EdgeBio

QuickStep™ 2 PCR Purification Kit

The QuickStep™ 2 PCR Purification Kit delivers highly purified DNA that can be immediately used for further amplification, cloning, and sequencing reactions. The kit consists of two purifying reagents: the improved patented resin SOPE™ (Solid-phase Oligo/Protein Elimination) that binds primers, ssDNA, enzymes, and other proteins, and the PERFORMA® Gel Filtration Cartridge that eliminates up to 99% of salts, buffers, dNTPs, and other small molecules. The cartridge is prepacked with the matrix fully hydrated in water.

- Purified PCR products can be used in many downstream applications requiring high purity like further amplification, sequencing, restriction digestion, and cloning
- Quick two-spin protocol: start to finish in only five minutes
- Designed for sample volumes from 20 to 50 µl

High-Speed and High-Performance PCR DNA Purification
Also available: products for Sanger sequencing reaction clean-up

Antibodies

Phagemid Display System Antibodies

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Anti-pIII (g3p) Antibody

The anti-pIII (g3p) antibody is a useful analytical tool for phage display systems using the protein III (g3-protein) of phage M13 for the display of recombinant proteins such as antibodies, protein- or peptide-libraries, and more. The antigenic epitope of the anti-pIII (g3p) antibody is located within amino acids 292 to 302 of the mature protein III and is therefore compatible with most phagemid vectors using different N-terminal deletions of protein III.

- Antibody to phage M13 coat protein III (g3p)
- Monoclonal mouse IgG
- For Western blots and ELISA

Anti-hPSTI (SPINK1) Antibody

The anti-hPSTI antibody was developed specifically for the pSKAN Phagemid Display System, but can also be used in other applications related to the human pancreatic secretory trypsin inhibitor (hPSTI).

- Antibody to hPSTI, also known as SPINK1
- Recognizes native (soluble) hPSTI as well as hPSTI in the pSKAN phagemid pIII-hPSTI fusion protein
- Monoclonal mouse IgG
- For Western blots and ELISA
- Reports indicate a potential of SPINK1 as an extracellular therapeutic target in prostate cancer

Mo Bi Tec MOLECULAR BIOTECHNOLOGY

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

www.mobitec.com

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