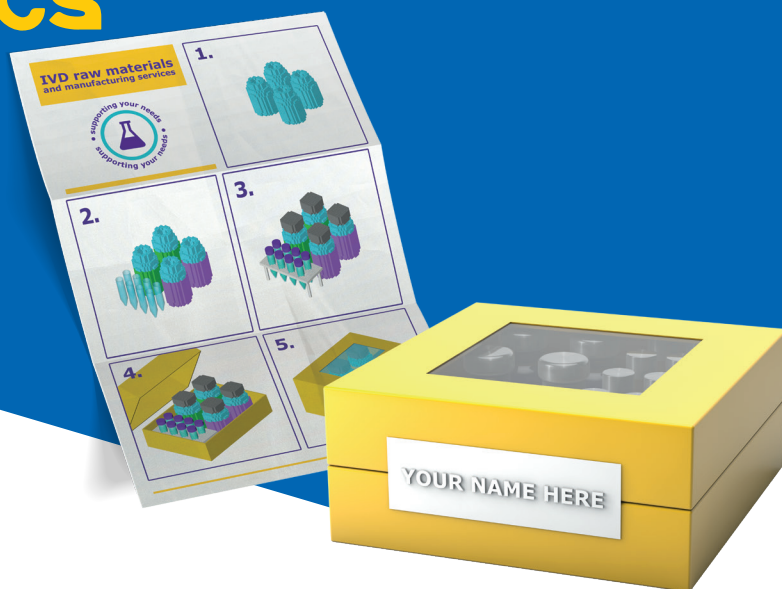
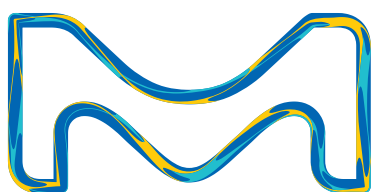


NEWS on diagnostics

2021 Volume 1



In this issue....

- **Prepare**
 - ECACC cell lines
 - Primary cells
 - Stem cells
 - Cell freezing solutions
 - Water purification
 - Sterile filtration
- **Grow**
 - Liquid media
 - Sera
 - Supplements & reagents
 - Labware
- **Analyse**
 - Multiwell assays
 - Live-cell analysis
 - Automated Cell counter

Cultivating healthy cell growth means depending on a quality mix of media, sera and reagents. That's why we offer an unparalleled line of cell culture solutions. From classical and specialty media, to foetal bovine serum, supplements and reagents, our offering is extensive and comprehensive — exactly what you would expect from a leader in R&D and manufacturing for diagnostics.

PREPARE

European Collection of Authenticated Cell Cultures (ECACC)

Over 16,000 cell lines, RNA, DNA, cDNA are available from ECACC. For more information on these cell lines, please visit SigmaAldrich.com/ecacc

Primary Cells

High purity, low passage, and rigorously characterised cells with optimised media & reagents. Primary cells are derived directly from living tissue and therefore more closely replicate the physiology of biological systems. They are increasingly useful in life science research, ADME/toxicity studies and pharmaceutical development, and in diverse applications where cell lines do not replicate the target biological system. We are pleased to offer primary cells from PromoCell (available in select geographies) and from Cell Applications, Inc. (CAI).

Our manufacturers have refined the isolation, purification, subculture, and growth of over 100 cell types. Cells come with the promise of purity, low passage, rigorous characterization, and strict quality control. Harmonized media and reagents provide optimal performance, ensuring confidence in the utility of these cells and their supporting products in your application.

Learn more at SigmaAldrich.com/primary-cell-culture

Stem Cells

We are proud to offer the European Bank of Induced Pluripotent Stem Cells (EBiSC) to provide researchers with greater access to nearly 800 patient-derived human iPS cell lines for disease modeling. Please visit SigmaAldrich.com/ebisc-cell-lines for more information.

Cell Freezing Solutions

Protect your cells from damaging ice crystals during freezing with our cryoprotectant & ready-to-use media.

The aim of cryopreservation is to enable cell stock storage and prevent the need to have all cell lines in culture at all times. It is invaluable when dealing with cells of limited life span. The other main advantages of cryopreservation are:

- Reduced risk of microbial contamination
- Reduced risk of cross contamination with other cell lines
- Reduced risk of genetic drift and morphological changes
- Work conducted using cells at a consistent passage number
- Reduced costs (consumables and staff time)

We offer a wide selection of equipment and reagents for your cryopreservation needs that include DMSO, prepared freezing media and Mr. Frosty Freezers.

In addition, we recently introduced the CryoStor® completely optimizable serum free cryopreservation system, HypoThermosol® highly protective media for storage of cells and tissues at 2–8 °C and will soon offer sericin, a protein from silkworm that has proved to be a valuable FBS replacement in cryopreservation. See more at SigmaAldrich.com/cryopreservation-storage-cells



Laboratory Water Purification



Purified water is an essential reagent in any laboratory. Highest-quality ultrapure (Type 1) water is recommended for sensitive analytical techniques, such as HPLC and for molecular biology (PCR based methods, gel electrophoresis, etc.) and cell culture. Having the correct quality of laboratory water allows test performance to be reliable and consistent. We offer a complete range of water purification systems, producing from a few litres of pure and ultrapure water, to up to several thousand liters per day.

For more information, visit SigmaAldrich.com/milli-q-iq7003-05-10-15

Sterile Filtration

Sterilise cell culture media with our high flow rate Stericup® & Millex® filters

Introducing the Stericup® E and Steritop® E sterile filtration devices—evolved with an eco-conscience. The new 'E' (eco-friendly) additions to the Stericup® family eliminate the plastic filler funnel entirely by threading directly onto the media bottle. Stericup® E and Steritop® E filter devices reduce environmental impact by reducing, disposable plastic, hazardous waste and lab storage space requirements.



Learn more about the Stericup® E and the Steritop® E at: SigmaAldrich.com/Stericup-E

Visit SigmaAldrich.com/oligocalculator for access to this essential tool.

Comparison of ultra-low temperature storage methods for cell lines

Method	Advantages	Disadvantages
Electric Freezer	<ul style="list-style-type: none"> • Ease of maintenance • Steady temperature (-135 °C) • Low running costs 	<ul style="list-style-type: none"> • Requires liquid nitrogen back-up • Mechanically complex • Storage temperatures high relative to liquid nitrogen
Liquid Phase Nitrogen	<ul style="list-style-type: none"> • Steady ultra-low (-196 °C) • Simplicity and mechanical reliability 	<ul style="list-style-type: none"> • Requires regular supply of liquid nitrogen • High running costs • Risk of cross-contamination via the liquid nitrogen
Vapour Phase Nitrogen	<ul style="list-style-type: none"> • No risk of cross-contamination from liquid nitrogen • Low temperatures achieved • Simplicity and reliability 	<ul style="list-style-type: none"> • Requires regular supply of liquid nitrogen • High running costs • Temperature fluctuations between -135 °C and -190 °C

Sterile Millex® Filters

Millex® syringe filters are ideal for sterilizing 1 mL – 200 mL of cell culture reagents, such as cell culture media, antibiotics, supplements, sera, viruses for infection, and other biological solutions. Many sterile Millex® filters are CE-marked and/or are approved as medical devices, meaning that they can be used to filter pharmaceutical solutions before they are introduced into human patients.

Because of the quality of their design, manufacturing, and quality control, sterile Millex® filters are known for superior performance compared to syringe filters from other suppliers:

- Less clogging, faster flow
- Minimal leaching of impurities into filtered solutions



- Minimal non-specific binding of desirable biomolecules, such as high value antibiotics, growth factors, and serum proteins

To help you select your Millex® filters, download our handy wall chart at

SigmaAldrich.com/millex-wall-chart

GROW

Liquid Media

Media variations have been refined in response to the need for physiologically-relevant environments for diverse mammalian cell cultures. Whether you're growing adherent suspension phenotypes, with or without foetal bovine serum (FBS), need high- or low-glutamine, ready-to-use liquid or easy-to-store powder – you'll find just what you need for cell culture here. These media and salts, along with their components, have been qualified for cell culture applications, and are manufactured in our state-of-the-art facilities. For more information, please visit

SigmaAldrich.com/cellculture



Sera

We offer a range of FBS products as well as serum replacement; pooled human serum; newborn, calf, and adult bovine sera; horse sera; and sera from other species such as chicken, goat, pig, rabbit, and sheep.

Search FBS products by country of origin, treatment (such as ultrafiltration, heat inactivation, or charcoal stripped), hemoglobin count, and endotoxin load. Most FBS sera is sterile-filtered and suitable for cell culture; some are specially prepared for hybridoma or insect cell culture.

Easily compare fetal bovine serum price. Just click the pricing links to see prices for any listed FBS or other sera of interest.

Package sizes range from 50 mL to 1 L, and multipacks are available.

Please visit our serum center at SigmaAldrich.com/serum

Supplements & Reagents

Our cell culture tested supplements & reagents are essential for proper cell growth, maintenance, function of our customer's cell culture.

Get all of the essentials

- Growth factors & cytokines
- Amino acids & sugars
- Antibiotics
- Attachment factors
- Hormones
- Mycoplasma detection

at SigmaAldrich.com/cell-culture-products

Cell Culture Labware

Support your cell growth with a comprehensive line of high-quality cell culture solutions from Corning®.

We are pleased to be designated by Corning® as its Globally Respected Distributor, providing you with all the Corning® products you need via a more convenient matched numbering system.

We have been providing Corning® Life Science products to the scientific community for over 20 years. Corning® is well known for brands such as

- | | |
|-------------|-----------------|
| PYREX® | Costar® |
| CellBIND® | CellSTACK® |
| ClearPro® | DNA-Bind® |
| Carbo-BIND® | Netwells® |
| ProCulture® | Stripette® |
| Thermowell® | Transtar® |
| UltraGAPS® | Universal-BIND® |
| Snapwell® | Tgold® |

ANALYSE

From cell counting to live imaging, count on our wide range of technologies to help you with any level of analysis.

Live Cell Analysis

Visualize long-term, live cell analysis of host-pathogen interactions using the CellASIC® ONIX2 System.



The CellASIC® ONIX2 Microfluidic System is well suited for host-pathogen studies by providing a stable, long-term culture environment for host cells (including primary cells) with controlled pathogen exposure.

The continuous perfusion format with the ability to seamlessly switch media solutions enables wash-out of pathogens from the chamber and continuous monitoring of host cell response over many days. The enclosed small volume of the culture chamber also provides practical advantages for working with infectious agents during live-cell analysis. The optical design of the microfluidic plates enables the dynamics of infection to be tracked using standard inverted microscopes.

Scepter™ 3.0 Handheld Cell Counter

The Scepter™ 3.0 cell counter is the only automated cell counter that's portable and handheld. This cell counter is the only device to bring the accuracy and consistency of Coulter impedance counting right to the culture hood. While other automated counters consume bench space and rely on object recognition software, manual focusing, and clumsy loading chambers, the Scepter™ 3.0 cell counter provides true automation without the risk of error that accompanies vision-based systems. With its microfabricated, precision-engineered sensor, the Scepter™ 3.0 cell counter does all the work of assessment and calculation and delivers accurate and reliable cell counts in less than 30 seconds.



Corning's highly valued plastic products, and multiwell plates for cell culture and drug discovery nicely complement our extensive selection of reagents and chemicals for these same applications.

Explore the range at [SigmaAldrich.com/corning](https://www.sigmaaldrich.com/corning)

