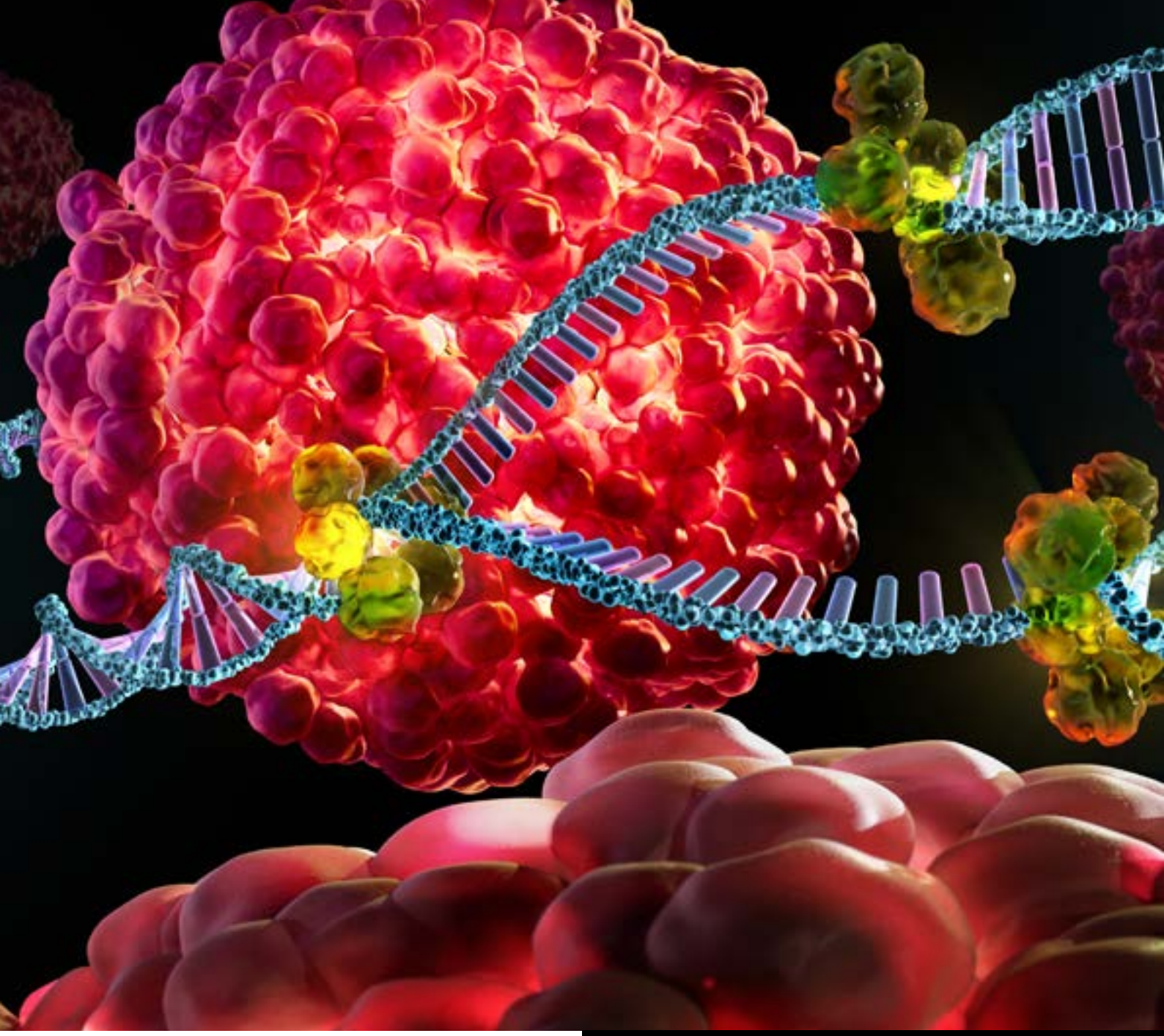


Translational Insights for Reproducible Advanced Cell Systems

Simplifying Progress

SARTORIUS

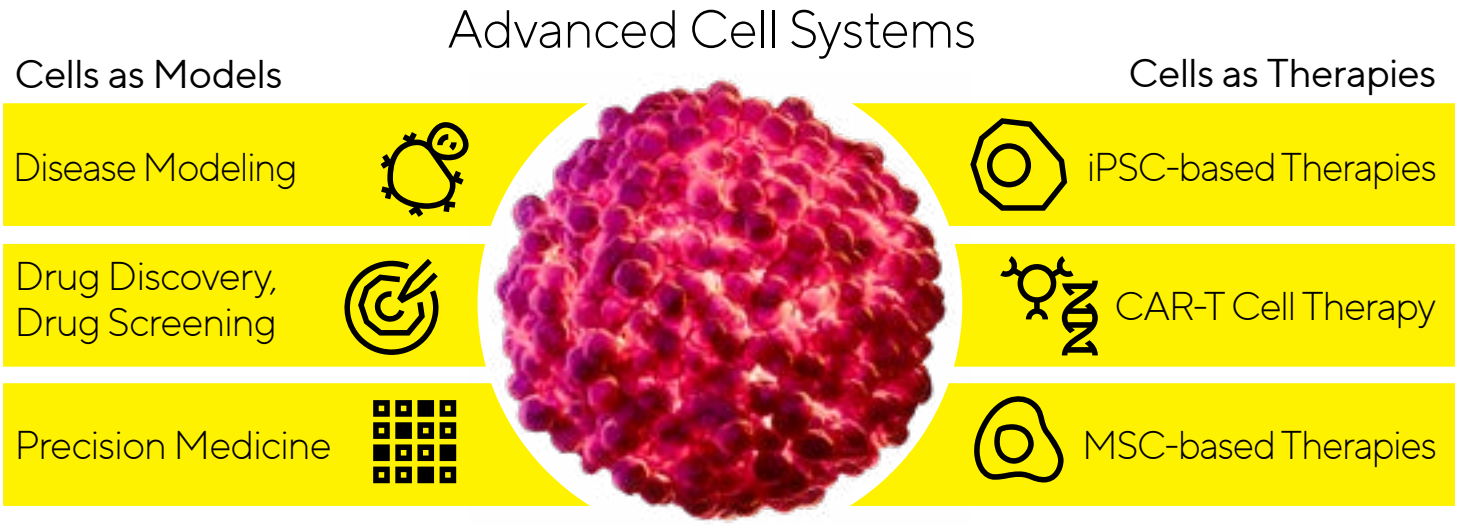
Unlock the Power of Advanced Cell Systems for Life Science Research and Development

Cells are the building blocks of all organisms. Understanding the biology of cells and their interactions at the molecular level is the foundation of biomedical and life science research. Utilizing cells as models is an established approach for drug discovery, whereas their use as therapeutics is a rapidly growing approach.

More than 90% of therapeutic candidates fail to make it past phase III clinical trials, mainly due to their lack of efficacy. The use of 3D and stem cell-based models better recapitulate the pathobiology of diseases and offer in-depth predictive insights that can translate into positive clinical outcomes.

Advanced cell models - such as organoids, spheroids and 2D stem cell-based models - are quickly revolutionizing biomedical research and drug discovery. However, they come with several challenges such as producing consistent data, developing standardized procedures, scaling up, and the need for additional validation studies.

Sartorius addresses these challenges and more with cutting-edge analytical solutions that optimize R&D workflows for advanced cell models, delivering translational insights that bridge the gap between research and clinical results for patients in need.



Disease Modeling Discover More

Advanced cell models like organoids and patient-derived induced pluripotent stem cells (iPSCs) provide new insights into diseases and offer a more predictable and precise research model, aiding in the study of disease pathologies.

Drug Discovery, Drug Screening Discover More

Advanced cell models enhance biotherapeutic development by providing detailed insights into drug effectiveness against different mutations and offering alternatives to traditional drug testing methods.

Precision Medicine

Advanced cell models facilitate precision medicine by mirroring individual genetic and epigenetic variations, enabling more effective personalized treatment strategies.

iPSC-based Therapies Discover More

iPSCs could revolutionize the cell therapy field by enabling the creation of specific cell types for tissue repair, but challenges in quality, safety, and stability must be addressed before clinical application.

CAR-T Cell Therapy Discover More

CAR-T cell therapy, a breakthrough in oncology using modified T cells, shows success in blood cancers and is being explored for solid tumors and other diseases.

MSC-based Therapies Discover More

Mesenchymal stem cells (MSCs) are very promising candidates for cell therapies offering self-renewal, diverse differentiation, ethical sourcing, immune modulation, and tissue repair, with many clinical uses already underway.

Our Solutions

Cutting-Edge Bioanalytical Tools for Streamlined Advanced Cell System Workflows

Incucyte® Live-Cell Analysis System

View eBook Discover Incucyte®

The Incucyte® Live-Cell Analysis System enables real-time, live-cell analysis directly inside your incubator. It provides quantitative, label-free *in vitro* approach for characterization and analysis of 2D and 3D cultures and cell models without ever having to remove cells from the incubator. Incucyte® software makes the process of acquiring, viewing, analyzing and sharing images of living cells easier than ever before.

- Cell movement and morphology
- Organoid culture QC
- Cell health and proliferation
- Immune cell function and interactions
- Cytokine profiling
- Differentiation assays

CellCelector Automated Cell Selection and Retrieval Platform

View Application Guide Discover CellCelector Flex

The CellCelector Flex Platform is a fully automated cell imaging and picking system developed for screening, selection and isolation of single cells, clusters, spheroids, and organoids as well as single-cell clones and adherent colonies.

- Automated scanning, detection and gating of complex 3D structures
- Organoid transfer with exceptionally low (1 µL) injection volumes of surrounding media into either 100% hydrogel, liquid media or any other medium
- Successful embedding of spheroids and organoids in 100% Matrigel into plates with or without cell culture membranes
- Automated morphology measurements
- Identification, targeted isolation and passaging of stem cell colonies
- Colony picking after genome editing (CRISPR)
- Isolation of single stem cells (single cell cloning or heterogeneity studies)

iQue® 3 High-throughput Screening by Cytometry

The iQue® 3 is a truly fast, simply effortless suspension cell and bead analysis platform for rapidly profiling of immune-cell phenotype and function in therapeutic drug discovery and development workflows. Ideal for those screens where cells are precious or limited in number, the iQue® 3 is the fastest way to generate high-content data from small samples.

Microfluidics acquisition capability analyses samples as small as 10 µL in a 384-well format, with zero dead volume. Cell detection occurs at rates of thousands of cells per second.

- Evaluation of T cell response in advanced 3D tumor models
- Spheroid immune cell killing
- Immune cell phenotype and function in advanced cell models
- Assessment of pluripotency and surface markers such as MSC
- Cell count and viability assessment
- Cytokine profiling

View Poster Discover iQue®

Octet® Label-Free Biomolecular Interaction Analysis Platform

Octet® Label-Free Bio Layer Interferometry (BLI) technology uses optical biosensors to measure protein-protein interactions in parallel, without the use of detection agents. This robust and fluidics-free approach enables fast, real-time characterization of expressed proteins, even in complex and unpurified samples.

- Proteome analysis
- Affinity screening of CAR-T cells Affinity determination of antigen – cell surface receptors
- Evaluation of CRISPR/Cas inhibitor proteins
- Quantitation of gene expression levels
- Detection and quantitate cytokines
- Optimization of cell culture media through quantitation of secreted proteins
- Rapidly and directly quantitate AAV capsids and Lentiviral p24 capsid proteinheterogeneity studies)

View Application Guide Discover Octet®

Our Solutions

Lab Essentials and Ancillary Materials for Optimal 2D and 3D Cell Cultures

Rapidly Test and Monitor for Mycoplasma, Bacterial and Fungal Contamination: Microsart® Rapid qPCR Detection Kits

The combination of speed, accuracy and efficiency provided by the Microsart® Mycoplasma, Bacteria and Fungi qPCR kits provide peace of mind during your cell culture processes. These comprehensively validated kits are highly sensitive and offer broad range microbial detection, consisting of an efficient DNA isolation protocol, and followed by a real-time PCR assay using the Microsart® ATMP Bacteria/Fungi/Mycoplasma kit.

- Results in just 3 hours
- Ideal for small sample volumes
- Included controls reduce pipetting steps
- Compliant with international guidelines

View Application Note Discover Microsart®

Plate Seeding with Picus® 2 Electronic Pipettes

Pipettes are one of the most used (and most personal) tools in the laboratory. Picus® 2 pipettes ensure reliable, repeatable pipetting results and feature an unbeatable ergonomic design that is kind to your hand. Picus® 2 is suited to all lab workers, from graduate students to experienced laboratory professionals. It is as intuitive to use as a mechanical pipette but offers more advanced options for experienced users.

- Uniquely lightweight and compact design supports easy, ergonomic operation
- Superior technology ensures highly accurate and reproducible results
- Connected for the future - The Sartorius pipetting mobile app offers easy sample preparation workflows and pipette management

Discover Picus® 2

Cell Culture Harvesting with Sartoclear® Dynamics Lab

Sartoclear® Dynamics Lab provides a single-step method for harvesting mammalian cell cultures with high cell densities. It utilizes membrane filtration with filter aids diatomaceous earth (DE), addressing the challenges of cell therapy workflows, such as clarification of lentivirus-producing HEK293T cultures.

- Rapid filtration
- Safe handling
- Preservation of viral activity

Discover Sartoclear® Dynamics

Research Grade Growth Factors and Cytokines

Sartorius offers a range of high-quality research grade cytokines and growth factors which are produced using recombinant DNA technology which do not contain any animal-derived components or contaminants.

Our highly-validated cytokines use relevant assay models and workflows giving reliable and reproducible data and supply chain consistency. They are manufactured to the highest quality standards, ensuring high purity and efficacy, providing lot-to-lot consistency and low endotoxicity. Sartorius has implemented a quality management system certified for compliance with ISO9001.

- Fully animal-derived and component-free
- Stringent validation using relevant assay models and workflows provides reliable and reproducible data
- Supply chain consistency enable seamless transition from research to production
- Maximum quality and safety reassurance due to state-of-the-art production, rigorous control and comprehensive documentation, along with expert technical and regulatory support

Read Application Note

Discover Research Grade Growth Factors and Cytokines

Classical Media, Reagents and Supplements

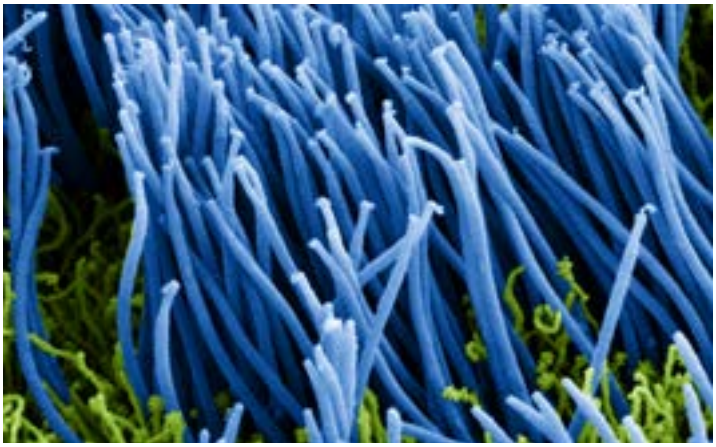
Sartorius media are designed to support the growth and maintenance of a variety of cells and cell lines. Each lot is manufactured under a strictly controlled process according to a Product Master Record to provide lot-to-lot consistency. Sartorius offers ready-to-use media in powdered and concentrated liquid formulations, custom manufacturing and various packaging options. Sartorius' excellence and expertise provide you with the safest, most reliable and most consistent media products.

Discover Classical Cell Culture Media

Microtissue Technologies, Primary Cells, Cultureware, and Testing Services

Explore ready-to-use 3D human-derived microtissue models, human primary cells, high-quality glass bottom cell culture dishes and plates for superior imaging, as well as toxicology testing services for industries such as cosmetics, pharmaceutical, chemical, and other regulated industries.

Discover Microtissue Technologies



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Find out more: www.sartorius.com/en/applications/life-science-research/advanced-cell-systems

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Advanced-Cell-Systems-Brochure-L-Sartorius Status: 08 | 2025