

Increase Speed – Reduce Risk – Boost Productivity

Innovative Solutions to Accelerate Development of Monoclonal Antibodies (mAbs)



turning science **into solutions**

Increase Speed – Reduce Risk – Boost Productivity Innovative Solutions to Accelerate Development of Monoclonal Antibodies (mAbs)

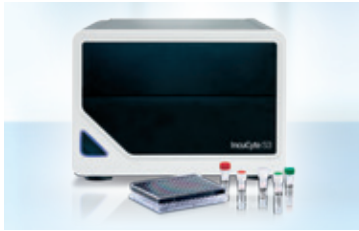
Molecule Development

Target Identification | Validation

Library Screening

Lead Optimization

Candidate Characteriza



The Sartorius Group is a leading international pharmaceutical and laboratory equipment and solution provider. With an extensive offering of premium laboratory instruments, consumables and services, Sartorius fulfills the needs of pharma and biopharma research and quality control laboratories as well as academic research institutes. Our product portfolio uniquely addresses the emerging needs and complexities of biopharma companies developing recombinant therapeutic proteins.

Cell Line Development

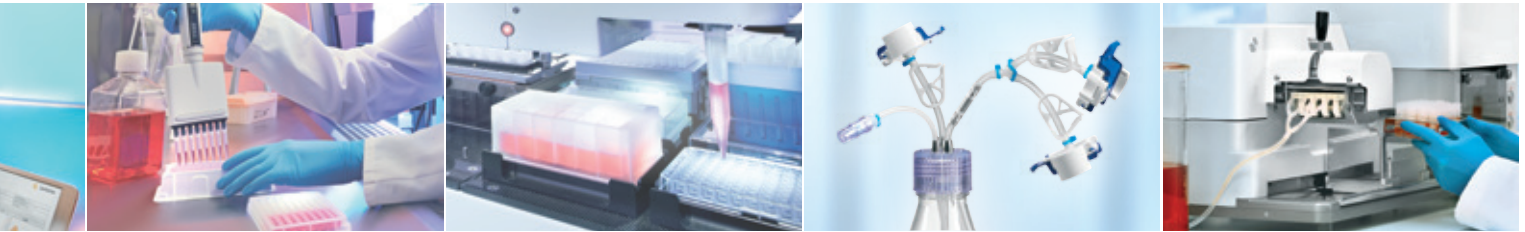
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Gene Cloning

Cell Line Selection | Identification

Cell Line Characterization

Cell Banking



Sartorius enables customers to meet their need for accelerated biological drug development through the use of high content, multiplexed screening technologies. In addition Sartorius helps researchers to address the crucial analytical and biosafety aspects among the different stages of biopharmaceutical drug development process.

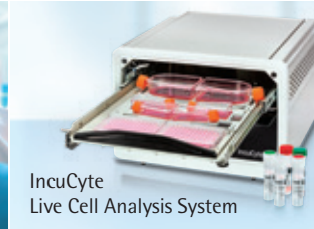


iQue Screener PLUS
High Content Screening

- iQue ScreenerPLUS High Content Screening (HCS)
- IncuCyte Live Cell Analysis System



- iQue ScreenerPLUS High Content Screening (HCS)



IncuCyte
Live Cell Analysis System

- iQue Screener PLUS HCS
- Compact SelecT Cell Line Culture
- ambr[®] 15 Automated Microscale Bioreactor System
- BioOutsource Services
- Microsart[®] @filter & media Bioburden Control



HPLC-App with Cubis[®] MSA indiv.

- iQue Screener PLUS HCS
- IncuCyte Live Cell Analysis System
- Compact SelecT Cell Line Culture
- ambr[®] 15 Automated Microscale Bioreactor System
- BioOutsource Analytical Testing Services
- Microsart[®] @filter & media Bioburden Control

Premium Solutions for Sample Handling & Preparation

- **Sampling:**
MYCAP[®] Bottle Closures and QUICKSEAL[®] Aseptic Disconnect
- **Cell Culture Harvest:**
Sartoclear Dynamics[®] clarification and sterile filtration
- **Buffer, Reagent and Sample Preparation:**
Cubis[®] Lab Balance with Q-App and Secura[®] Semi-Microbalance
- **Liquid handling:**
Picus[®] NxT Electronic Pipettes with sterile SafetySpace[™] Tips
Midi Plus[™] Pipetting Controller

Cell Line Development

Gene Cloning



BioOutsource | Cella
Cell Line Development Service

- Picus[®] NxT Electronic Pipettes with sterile SafetySpace™ Tips
- ambr[®] 15 Automated Microscale Bioreactor System

Cell Line Selection | Identification



ambr[®] 15 Automated Microscale
Bioreactor System

- BioOutsource | Cella Cell Line Development Service
- iQue Screener PLUS | IntelliCyt with Cy-Clone PLUS™ Assay
- Compact SelecT Cell Line Culture

Cell Line Characterization



MYCAP[®] Bottle Closures
QUICKSEAL[®] Aseptic Disconnect

- BioOutsource Cell Line Characterization Testing Service
- ambr[®] 15 Automated Microscale Bioreactor System
- Compact SelecT Cell Line Culture
- iQue Screener PLUS | IntelliCyt with Cy-Clone PLUS™ Assay
- Microsart[®] RESEARCH Mycoplasma Detection Kit
- Microsart[®] RESEARCH Bacteria
- Microsart[®] @filter & @media Bioburden Control

Cell Banking



fill-it Automated Filling System

- BioOutsource Cell Bank Manufacturing and Testing Service
- BIOSTAT[®] RM Bioreactor with Flexsafe[®] Bags
- Microsart[®] AMP Mycoplasma Detection Kit
- Microsart[®] RESEARCH Bacteria
- MYCAP[®] CCX Bottle Closures Cell Expansion

- **Impurity Removal, Capture:**
Sartobind[®] Membrane Adsorber
- **Sample separation, clarification:**
Centrisart[®] Centrifuges

- **Buffer Exchange and Concentration:**
Vivaspin[®] Ultrafilter
- **Sterile Filtration:**
Minisart[®] High Flow Syringe filter RC,
Sartolab[®] BT | RF, Sartolab[®] P20 Filtration units

- **Ultra pure water for physicochemical, biological tests, assays:**
arium[®] ultrapure water system ASTM type 1
- **Particle Removal:**
Minisart[®] RC Syringe filter



iQue Screener PLUS

The iQue Screener PLUS platform is an integrated instrument, software and reagent platform that enables rapid, high content, multiplexed analysis of cells and beads in suspension. The iQue Screener PLUS enables the fastest way to generate high content data from small samples – which is ideal for those screens where cells are precious or limited in number.

Features

- Intuitive, all-in-one ForeCyt® Software workflow for data analysis and visualization
- Application-specific cell and bead-based assay kits
- Multiple instrument configurations to meet technical and budget requirements
- Mix and read assay kits – Cy-Clone PLUS for correlation of IgG quantitation per cell

Benefits

- Fast – processes 96 well plates in < 5 minutes and 384 well plates in < 20 minutes
- High content – multiplexed analysis of cells and beads in suspension for deeper insight
- Miniaturized assays – conserves precious cells and saves reagent costs
- Easy to use – no dedicated operator needed

Picus® NxT Electronic Pipettes

The lightest electronic pipette on the market with superior design provides maximum convenience for pipetting. Available in single and multi-channel models, pipettes offer distinct advantages for compliance in strictly regulated laboratories including a certificate of accredited 3-point calibration and other novel safety features.



Features

- Storage and easy activation of dilution protocols
- Multi-dispensing mode and microplate tracker
- User-programmable pipetting protocols and password protection
- Ergonomic and light weight of only 100 g (300 μ l model)

Benefits

- Increases reliability and speed for a faster workflow
- Saves time and effort
- Minimized user related errors
- Guided pipetting into correct wells



HPLC Q-App Software with Cubis® MSA individual

Time saving and automated preparation and documentation of 100% comparable HPLC standards. Sartorius sets new standards in the preparation of stock solutions for highly sensitive analytical testing. The customized HPLC Q-App software connects the Cubis® balance directly to the dispenser and then accurately calculates the required solvent volume based on the quantity of solid weighed.

Features

- Automatic solvent volume adjustment according to sample weight
- Interface, data exchange with Chromeleon™ software
- Direct data transfer with 100% accurate record generation
- Highest weighing accuracy with up to five decimal places

Benefits

- Time saving and automated preparation of standards
- Verified sample concentration without recalculation
- Automated documentation of test procedures
- Integration of different dispensing solutions

BioOutsource Services for Biological Drug Development

Sartorius Stedim BioOutsource is a leading Contract Research Organization (CRO) specializing in the biological, physicochemical and structural analyses of biologic drugs. The range of testing and development services supports the progression of biological drugs from development through to commercialization: **Structural, Physicochemical and Bioanalysis Service, Cell Line Characterization Testing Service and Cell Bank Manufacturing and Testing Service.**

Features

- Closed production system allowing up to 500 vial cell banks
- GMP Biosafety Testing Services
- Platform approaches for a range of structural, binding and functional characteristics
- Integrated customer service via a dedicated project manager

Benefits

- Outsourced services save time and money for core activities
- Fast turnaround: Cell Banking and release testing by a single supplier
- Side-by-side physicochemical and biological analysis
- Reliability through extensive technical and regulatory knowledge





Cellca Cell Line Development Service

Cellca, part of Sartorius, is a recognized leader in cell line and process development, specializing in protein production of biologics in mammalian cells specifically for the industrial production environment. Based on in-depth expertise and intellectual property, Cellca has established a unique technology platform, the Cellca CHO Expression Platform.

Features

- High efficiency cell line producing technology platform
- Well characterized CHO DG44 suspension parental cell line
- 100% chemically defined and optimized media
- Proven track record with more than 40 successfully completed projects

Benefits

- Delivery of protein titres exceeding 3 g/L in a 12 – 14 day fed-batch process
- Delivery from DNA to high-titre Research Cell Banks in 4 – 5 months
- Reduced cost of goods, development risks and development time
- Transferrable and up-scalable processes to bioreactors up to 1000 L



ambr[®] 15

ambr[®] 15 cell culture is an automated microscale bioreactor system that replicates classical laboratory scale bioreactors. The benchtop system comprises disposable micro bioreactor vessels, an automated workstation and user friendly software. ambr[®] 15 offers automated parallel processing and control of 24 or 48 bioreactor experiments using just one operator.

Features

- Multi-parallel cell culture system with 15 ml single-use vessels
- Online monitoring and closed-loop control of pH (6–8) and DO
- Software controlled and recorded with a full audit trail
- Automated liquid handling

Benefits

- Rapid screening of clones and media optimization
- Data-rich culture profiles with automated sampling
- Enough culture volume for many samples during a run
- Large multifactorial experimental designs (DoE) in real time

MYCAP® and QUICKSEAL®

The patented MYCAP® Bottle Closures systems fit almost any bottle, flask, tube or rigid container with a screw cap wherever fluids need to be aseptically added or collected from a bottle. It is a one-piece bottle cap that includes a platinum-cured silicone stopper and overmolded tubes.



The patented QUICKSEAL® aseptic tube sealing system makes critical fluid-management more efficient and reliable. It securely seals tubing after sampling or inoculation, buffer and media prep processes, product transfer or any critical fluid-handling process.

Features

- MYCAP®: Platinum-cured silicone stopper with integral tubing
- QUICKSEAL®: Platinum-cured silicone and thermoplastic elastomeric tubing

Benefits

- Time saving with elimination of errors and no contamination risks
- Higher efficiency and reliability of critical fluid management

fill-it

fill-it is an automated filling system for cell banking. As a standalone product for rapid dispensing cell suspensions and other liquids into screw-cap microtubes and cryovials, it includes automation for removing and replacing the tube caps. fill-it enables the rapid creation of high quality, consistent stock tubes for centralized cell line libraries, screening operations or GMP production cell banks.



Features

- High throughput filling of cells into cryovials
- Fits inside a standard biosafety cabinet
- Automatically decaps, fills and recaps screw-cap microtubes
- Aseptic and GMP compliant

Benefits

- Increased batch sizes and reduced QC overhead
- Consistent, high quality cell stock tubes
- Improved safety by reducing manual manipulations
- Usable with both mammalian and microbial cell suspensions



arium® ultrapure water systems ASTM type 1

- Efficient removal of endotoxins, RNase, DNase
- Highest ion reduction
- Constantly highest water quality
- Intuitive menu navigation
- arium® mini < 10 liters daily
- arium® pro VF > 10 liters daily



BIOSTAT® RM Bioreactor with Flexsafe® bags

- Cell bank manufacturing in a closed system
- Seed and small-scale protein supply
- Security of supply and consistent quality
- Easy to use rocker with advanced control capabilities
- Excellent cell growth and robustness



Centrisart® Centrifuges

- 6 models offering different speeds and capacities
- Large LCD display
- Guaranteed 4°C at maximum speed
- Highest safety level
- Silent and easy operation



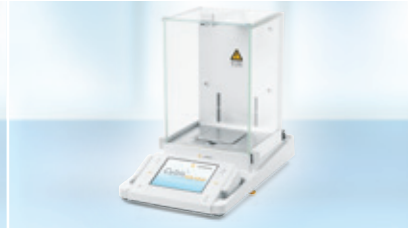
Claristep®

- HPLC sample preparation set for fast and easy handling
- Filters up to 8 samples simultaneously
- Filters with 0.2 or 0.45 µm pore size
- Reliable removal of particles
- No ghost peaks



Compact Select

- Automated cell culture system
- Assay-ready plate production
- Improved quality of cell cultures
- Flexibility in batch size and security
- Increased productivity and throughput



Cubis® Lab Balance with Q-App Software

- Buffer and reagent preparation with HPLC Q-App
- Highest accuracy and precision
- Reliability and compliance of results
- Connectivity and web communication
- Integration of SOPs or other workflows by Q-Apps



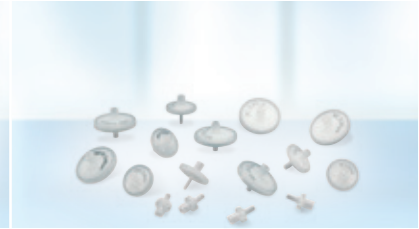
IncuCyte S3[®] Essen BioScience

- Real-time, live-cell analysis system
- Continuous, automated imaging and analysis inside the incubator
- For multiple users and applications in parallel
- With non-perturbing IncuCyte[®] reagents



Microsart[®] RESEARCH & AMP (validated) Mycoplasma

- Fast mycoplasma detection kits
- Based on real time PCR
- Efficient screening of cell culture
- Highly specific TaqMan probes
- Reduced risk of false-positive results



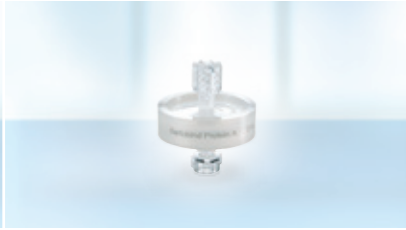
Minisart[®] High Flow and RC

- Syringe filters for physicochemical analysis
- Low unspecific adsorption
- Fastest flow of filtered samples without blocking
- High Flow with largest membrane surface in syringe filters
- RC with lot specific certification for HPLC



Midi Plus™ Pipetting Controller

- Lightweight, cordless pipetting controller
- Built in folding stand for convenient storage
- Hydrophobic autoclavable filter
- Protection from contamination and over-aspiration
- Decontamination with autoclavable nose cone



Sartobind® Membrane Adsorber

- Rapid impurity removal or capture of biomolecules
- For affinity, HIC and IEX chromatography
- Membrane based macroporous convective media
- High binding capacity for large molecules
- Screening large numbers of samples in 96 well plates



Sartoclear Dynamics® Lab P15

- Single step mammalian cell culture harvest
- Processing multiple samples without a centrifuge
- Easy handling
- Time saving
- Optimized for ambr® 15



Sterile SafetySpace™ Tips

- Filter inside the tip
- Samples protected from contamination
- Space between filter and sample for foaming liquids
- Fit perfectly to Picus® NxT pipettes
- Each tip lot is purity tested and certified



Sterisart® Pump & Disposables

Pump:

- Clean room suitable, easy to disinfect and clean

Disposables:

- Septum for aseptic sampling & injection
- Gamma-sterilized ready to use system
- Closed system, USP compliant



Vivaspin® Turbo 4 & 15

- Ultrafiltration units with twin vertical membranes
- Highest chemical resistance
- Fastest concentrator on the market
- Highest recoveries
- Units for up to 4 or 15 ml sample volume

Sartorius Service: We Ensure the Quality of Your Results

At Sartorius, high-quality products go hand in hand with professional service. With our service offerings, we ensure the safe and optimal operation of your laboratory instruments. We cover the entire life cycle of your equipment – from commissioning through qualification up to regular maintenance.

Training Courses: Success through expertise

Sartorius offers a wide range of training courses that teach about our products and their specific applications. The courses are designed to help streamline your workflows and make you more efficient. For example, we offer training courses on working efficiently with pipettes and lab balances as well as courses on cell culture using the ambr[®] 15 and sterility testing for microbiology.



Contact

Would you like to participate in a training course, order a service or need technical support?

Feel free to contact us anytime at www.sartorius.com/service

Sartorius Lab Instruments
GmbH & Co. KG
Otto-Brenner-Strasse 20
37079 Goettingen



◀▶ www.sartorius.com