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CULTURE
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CEO

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IN CELL CULTURE
DISPOSABLE
MANUFACTURING

SABEU

\$15



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*The annual listing of 10 companies in Europe that
are at the forefront of providing Cell Culture solutions and
impacting the industry in the region*

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A CHAMPION IN CELL CULTURE DISPOSABLE MANUFACTURING

The proliferation of cell culture technologies and the development of newer culture mediums are enabling pharmaceutical companies to move away from deeply-rooted animal testing. Researchers now focus on in-vitro cell culture as a better alternative, driving the need for a reliable system that ensures constant reproducibility in its results. Simultaneously, pharma businesses seek cell culture supports with the properties, quality, and reliability to consistently deliver desired yields.

At the forefront of providing exceptional cell culture inserts and well plates is SABEU, a global leader in the production of membranes and plastic components for medical and life sciences applications. It is powered by the state-of-the-art track-etched membrane technology.

“Track-etching technology is critical to achieve reproducible cell growth on permeable supports. As the front runner in the field, SABEU is the only company

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We are flexible in integrating client requirements into a new product, and our brand promise is creating the highest quality cell culture inserts and supplying them at affordable prices

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that produces every single element required to manufacture cell culture inserts – including its very own TRAKETCH® membranes.” says Dennis Benkmann, CEO of SABEU.

SABEU is part of a family-owned business belonging to a 200-year-old consortium (Altenloh, Brinck & Co. Group) with over 30 years in processing and manufacturing membranes for highly-regulated industries. This experience allows it to have a completely in-house manufacturing process, including membrane production and assembly and injection moulded components. From a portfolio standpoint, its cell culture solution, cellQART®, focuses on driving collaborative innovation where it works closely with clients on custom solutions. It also possesses a lean supply chain with operational excellence to ensure the reliable delivery of critical components and solutions.

SABEU is the only OEM that manufactures all the components needed to build permeable

cell culture support in-house, enabling it to meet ever-evolving customer expectations at an unmatched level. Currently, its specialised product line is supporting numerous clients worldwide, providing a comprehensive line of cell culture inserts that covers a wide range of research applications across multiple markets.

Bringing Forth Superior Cell Culture Technology

Membranes are a vital component of the cell culture insert, as they play a crucial part in the attachment and growth of cells. They also facilitate the diffusion of nutrients and substances into cells.

The semi-permeable membranes in cellQART® Cell Culture Inserts assist in generating superior apical and basolateral compartments and enable the formation of robust interfaces while providing mechanical support for the cells. SABEU also performs in-line quality control of every

segment to ensure 100 percent membrane structure consistency and dependable cell growth. Although traditional cell culture vessels may be sufficient for certain applications, developing semi-permeable membrane-based products like cellQART® Cell Culture Inserts has expanded the possibilities of building more intricate models that permit cell polarisation, communication, and migration.

The cellQART® Cell Culture Inserts come with polyester membranes in translucent or transparent optics and five pore sizes. They are treated and sterilised using gamma radiation. Recently, SABEU launched cellQART® with specially designed well plates that showcase unparalleled reproducibility for high-performance, in-vitro tissue culture research applications. cellQART® 6-, 12-, and 24-well formats are pre-loaded with its innovative cell culture inserts to improve workflows while reducing packaging waste.

Unmatched Quality and Throughput

Benkmann emphasises that the ability to control the membrane's quality parameters is an essential feature to guarantee cell growth on the inserts. A membrane must be appropriately coated and evenly welded to the plastic, as even a single defect can damage the whole cell culture. Since these aspects are paramount in creating an effective cell culture, SABEU rigorously monitors all the parameters in its end-to-end evaluation process.

For its inserts pre-loaded in well plates, it adopts optimised designs to offer stable positioning of inserts within wells and reduce unwanted mechanical forces driven by insert shifting. The innovative design also facilitates simplified pipetting, better trans-epithelial electrical resistance (TEER) electrode positioning, and prevents unwanted insert movement during transportation. At the same time, the packaging lid for SABEU's solution is equipped with condensation rings to prevent cross-contamination due to evaporation.

A Partnership-Driven Approach to Continuous Improvement

SABEU's multidisciplinary collaborations and interactions in the cell culture inserts market and scientific community empower it to offer tailored solutions for complex research applications. For every client engagement, it gathers insights from subject matter experts worldwide, analyses their input and incorporates them into its product line. This boosts SABEU's commitment to better

assisting clients by meeting their specific and unrealised cell culture needs.

Substantiating this, cellQART® inserts are used in many internationally published studies to model epithelial and endothelial barriers, perform co-cultures to study cell communication, and identify their migration and invasion properties. For instance, kidney epithelial cells were grown on cellQART® as part of a standardised protocol for large-scale production of proximal tubular epithelial cells generated from human pluripotent stem cells. These cells established and maintained a tight epithelial barrier for the entire duration of the experiment. This helped in studying the functional differentiation and scalable production of renal epithelial cells from stem cells in a dynamic culture system.

In modelling the blood-brain barrier, cellQART® inserts are widely praised by the community for its unmatched result reproducibility. For this assay, human brain astrocytes were seeded on one side of the membrane and

human brain microvascular endothelial cells on the other. The co-culture's quality was monitored, demonstrating cells grown on cellQART® could attach, survive, and create a stable barrier. Following this, inflammation was induced and cellular transmigration was studied for inflammatory T-cell responses and its migratory potential in multiple sclerosis patients.

These successes are driving many pharma businesses to approach SABEU and establish long-term relationships, which exemplifies the criticality of its role in clients' existing and future pipelines.

Besides partnerships, SABEU's mission to follow the 3Rs of reducing, refining, and replacing animal testing while advancing breakthrough research is pivotal in accelerating the transition from in-vivo to in-vitro methods across the life sciences sector. On the consumer side, it is dedicated to resolving the seemingly unsolvable problem of finding innovative cell culture products with the highest quality standards at affordable prices

through its unified solution and in-house production capabilities.

“We are flexible in integrating client requirements into a new product, and our brand promise is creating the highest quality cell culture inserts and supplying them at affordable prices,” adds Benkmann.



Track-etching technology is critical to achieve reproducible cell growth on permeable supports. As the front runner in the field, SABEU is the only company that produces every single element required to manufacture cell culture inserts – including its very own TRAKETCH® membranes

Effectively Navigating Supply Chain Issues

SABEU holds unrivalled competencies in distributed manufacturing, where it emerged as a hidden champion during the COVID-19 pandemic, assisting many clients with supply issues. It easily manoeuvred supply chain obstacles and delivered solutions quickly and reliably using its end-to-end manufacturing capabilities and team of experts comprising cell biologists, product developers, and engineers, among others.

Following this mindset, cellQART® competitive strategy assures the delivery of best-in-class cell culture products and impeccable customer satisfaction. SABEU offers full customisability to existing cell culture inserts based on client specifications, handling 100 percent of plastics and membrane production. Above all, its cross-functional R&D and project management competencies enable the delivery of innovative and novel cell culture products.

Through its deep know-how of cell culture workflows and strategic partnerships, SABEU is setting new benchmarks in quality, delivery performance, and support services, establishing in-vitro cell culture as a viable alternative to animal-based in-vivo testing. [LS](#)

