



VERO EXPRESSION

Cost-Efficient Vaccine Production



CAPRICORN SCIENTIFIC – YOUR PARTNER IN CELL CULTURE

Capricorn Scientific was established in 2013 as a German manufacturer of cell culture products, for biotech and diagnostic industry. Qualified testing procedures, comprehensive traceability, and documentation guarantee the excellent and reproducible quality of our products. We have the flexibility to offer a wide range of classical and customized products for cell culture to meet the

growing demands of today's market with lower costs, shorter lead times, and personalized customer service. Our team of highly qualified and experienced specialists have been working in the field of cell culture for many years. We are highly trained, experienced, and motivated to fulfill your requests and orders in time.

50+
PARTNER
WORLDWIDE

>180
PRODUCTS

**WORLD
WIDE
AVAILABILITY**



MADE IN GERMANY

Our 1350 sqm controlled production plant and warehouse are based close to Frankfurt. With a short route to the international airport, our products are delivered throughout the world.

We are regularly audited and ISO certified by an independent organization to continuously improve our quality system and our standards.

VERO MEDIA

Developed & Perfected for Vaccine Industry

GENERAL INFORMATION

Vero cells are obtained from the kidney of African green monkeys. This anchorage-dependent cell line has been licensed for the production of both live and inactivated viral vaccines.

The Vero cell line is a widely accepted cell line by regulatory authorities and has been used for decades to produce diverse viral vaccines. Virus propagation in cell culture systems has pushed the development of viral vaccines enormously.

The regulatory requirements discourage the use of animal products, such as serum in the process of vaccine production, and they should thereby be avoided.

Capricorn Scientific has developed serum-free and animal component-free media for the propagation of Vero cells. The media also support the growth of Vero cells on microcarriers in controlled environments. Therefore, our media are ideal for vaccine production.

THE ADVANTAGES AT A GLANCE

Capricorn Scientific's products for Vero cells are highly suitable for small- and large-scale vaccine production. Our cell culture media have been optimized in cooperation with a variety of industrial partners.

- ✓ Optimized for cultivation with microcarriers
- ✓ Serum-free, animal origin-free and low protein formulation
- ✓ Ideal for virus and recombinant protein production
- ✓ Cost-effective for production
- ✓ Available in various formats such as bottles, bags and powder



SCALABILITY

What does our liquid scale up look like?

BOTTLES

From 1 ml to 1 L

AUTOMATIC AND SEMI-AUTOMATIC FILLING

- » Standard and customized products in various unit sizes
- » Large-scale Lot sizes of up to 1000 L
- » Single use components to exclude cross contamination packaging and deliver



2 D BAGS

2D pillow bags
10-50 L

QUALIFIED CONTACT LAYER

- » Cell culture approved
- » Optimized resins and additives
- » C-Flex tubing material available

SEVERAL DIFFERENT CONNECTORS

- » For individual production plans

SEVERAL QUALIFIED BAG SUPPLIERS

- » For secure supply
- » For just-in-time delivery



3 D BAGS

from 50 L to 1000 L



SELECT THE RIGHT CONNECTION FOR YOUR PROCESS

We have the right connection for every process. We offer a large selection of connectors for sterile and less strictly controlled environments. With up to 100 different connection options, including weldable thermoplastic tubings, our fluid management systems are versatile and can be integrated into any existing process or application.

- » Standard MPC or MPX couplings
- » Sterile connectors like Opta® or AseptiQuik®
- » MPU couplings
- » Sanitary connections



HIGHEST EXPRESSION

Cell Densities & Infectivity

VeroVax

Our VeroVax is a serum-free, animal and human origin-free cell culture and production medium. It was especially designed for the cultivation of Vero cells. The medium enhances virus and recombinant protein production.



Cost-efficient medium



Contains growth promoting hydrolysates



Fast and easy adaptation

VeroPrime

Our Vero medium VeroPrime is a completely chemically defined cell culture and production medium. It was especially designed for production of viruses and recombinant proteins. The raw materials are free of animal and human origin to match the demands of the biopharmaceutical regulations.



Animal and human origin-free



Chemically defined



Optimized for small- and large-scale production and purification

PRODUCT	VOL.	CAT.NO.
VeroVax Serum-Free Medium w/o L-Glutamine Sterile-filtered	500 ml other unit sizes on request	VEV-500ML

PRODUCT	VOL.	CAT.NO.
VeroPrime Chemically Defined Medium w/o L-Glutamine Sterile-filtered	500 ml other unit sizes on request	VEP-500ML

DONE WITH HIGHEST PRECISION

POWDER HANDLING

We have implemented a state-of-the-art pin mill and blending technology for manufacturing of powder media for our biopharmaceutical customers. This latest technology of milling and blending thus provides our customers with full homogeneity of powder media from 100 L up to 40000 L batch sizes. For larger batches we work closely with a GMP contract blending provider to enable batch sizes up to 250000 L.

The high air flow rates feature temperature-controlled grinding to minimize the impact on temperature-sensitive components. The end-product fineness features a controlled particle size. The cut off particle size is precisely defined for excellent media solubility. The result is a high quality, free-flowing, easy to dissolve, and fully homogenized powder. The whole environment is humidity, temperature and particle controlled by the newest technology.

MANUFACTURING PROCESS

- » Full documentation from raw material to final product
- » Defined and homogenous milling and blending
- » Excellent solubility of the powder media

VOLUME SCALABILITY

- » Lot sizes from 100 L to 40000 L
- » Secured scale up process
- » Cost-efficient process

CUSTOMIZED POWDER & FORMULATION

- » We offer a range of media and buffer solutions from small scale to large scale in powder format
- » Customization of special formulations with flexible packaging and delivery options is part of our service



TRANSPORT SYSTEMS FULLY CUSTOMIZABLE

LIQUID HANDLING

Our disposable bag systems are designed to maintain the integrity of your cell culture medium or buffer solution. Each technical parameter is fully customizable and can be adapted towards your system.

The bioprocess bag systems protect the integrity of your cell culture. They come with standard and customized options for a wide range of applications, sizes, and connector systems. These systems are part of our comprehensive range of sterile products to fully meet your needs and include robust euro boxes, stainless steel or HDPE- containers, roller plates, and special assemblies.

We use disposable single-use bag systems for the secure and reliable transportation of our cell culture products. The resins used in the manufacturing of our bags are optimized to ensure excellent and reproducible growth. The thickness, strength, and flexibility of these bags make them suitable for all process steps and reduce the risk of damage due to inappropriate handling.

Our products are delivered in 2D pillow bags for unit sizes up to 50 L, and in 3D cubic bags for larger unit sizes up to 1000 L.



Kindly provided by Sartorius AG

BIOCOMPATIBILITY

- » Cell culture approved and validated packaging systems
- » Validated through comprehensive studies on stability, extractable and leachable contaminants, and an in depth toxicological assessment

VOLUME SCALABILITY

- » From 5 L up to 1000 L
- » Single-use bags for fluid management

INDIVIDUAL CONFIGURATION

- » Fully aligned to the requirements of your process
- » Broad spectrum of connectors, tubing, and packaging systems



ORDER
Information

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WHY US?

» Your partner in cell culture

We are a company dedicated to cell culture. Our specialists offer their experience to support your manufacturing processes.

» Competence, commitment, and improvement

Our ISO 9001:2015 Certification confirm that we are regularly audited and certified by an independent organization to continuously improve our quality system and our standards, processes, and products.

» Fast and efficient order processing

Secured just-in-time delivery due to short administrative channels and good knowledge on product quality, stability, and delivery condition.

» Customized production and development

We design your media according to your recipe or create innovative solutions that can improve the performance and efficiency of your specific processes.

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