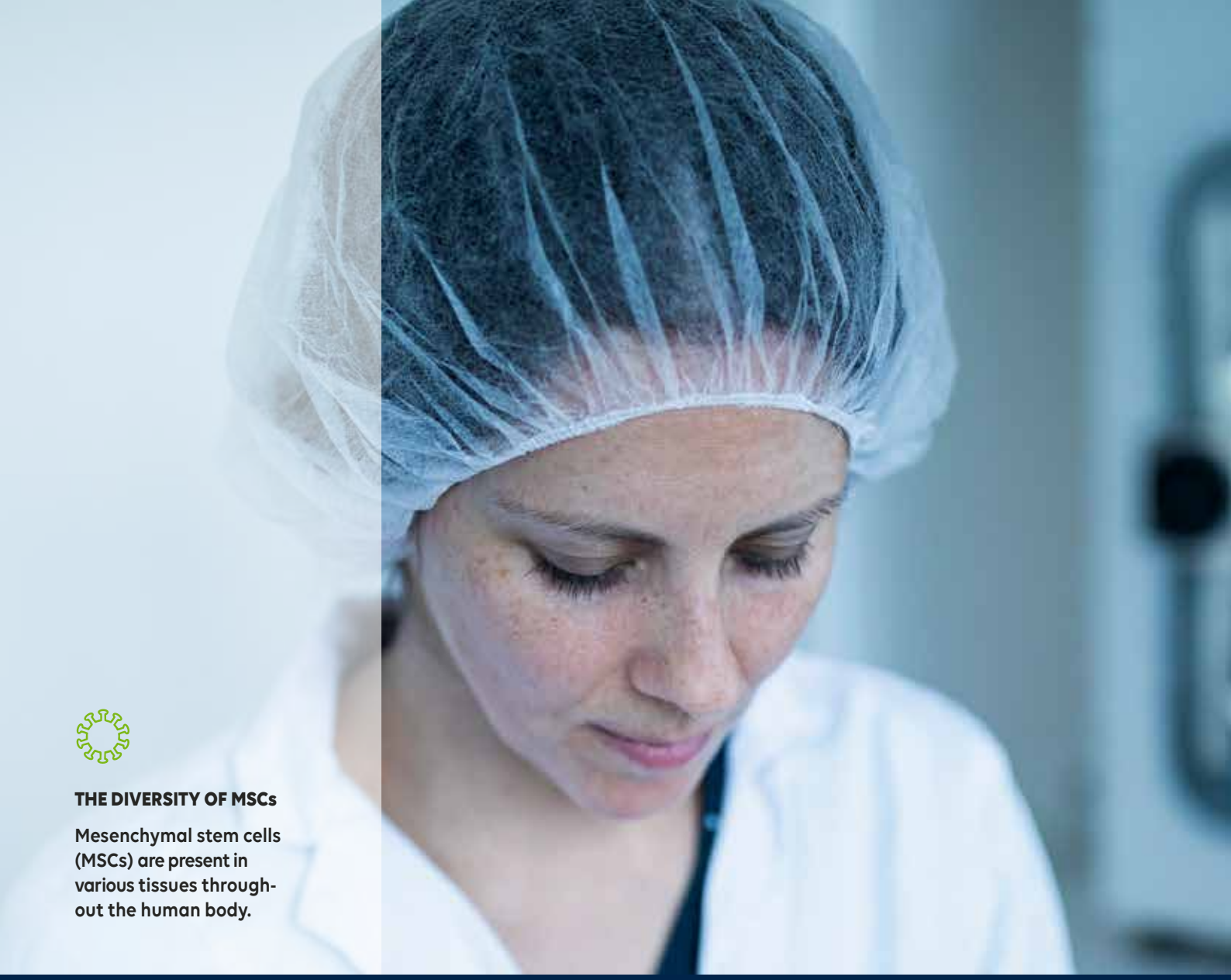
CAPRICORN SCIENTIFIC

MSC StemPrime

The Next-Level Defined Medium

For Mesenchymal Stem Cells

www.capricorn-scientific.com



THE DIVERSITY OF MSCs

Mesenchymal stem cells (MSCs) are present in various tissues throughout the human body.

VERSATILE ISOLATION & EXPANSION

Of Human Mesenchymal Stem Cells

They are commonly isolated from umbilical cord, adipose tissue, and bone marrow, resulting in diverse metabolic properties and handling requirements.

MESENCHYMAL STEM CELLS

Determine Our Future Lives

MSCs are adult stem cells exhibiting the potential to differentiate into most body cell types. Due to their immense regenerative capabilities, their immunomodulatory properties, and multilineage differentiation, **native MSCs play a crucial role in the cellular repair and regeneration processes.**

The diverse potential of MSCs has made them a promising tool to be used in regenerative medicine and clinical research:

CELL BIOLOGY RESEARCH

Enhancing our understanding of disease mechanisms and cellular regeneration

IMMUNOLOGY & DRUG DEVELOPMENT

Investigating how MSCs modulate major components of the immune response for future therapies

CELL THERAPY

Utilizing the patient's own native or modified MSCs for tissue regeneration

TISSUE ENGINEERING

Approaches to create organs and tissues from MSCs to treat severe injuries and diseases

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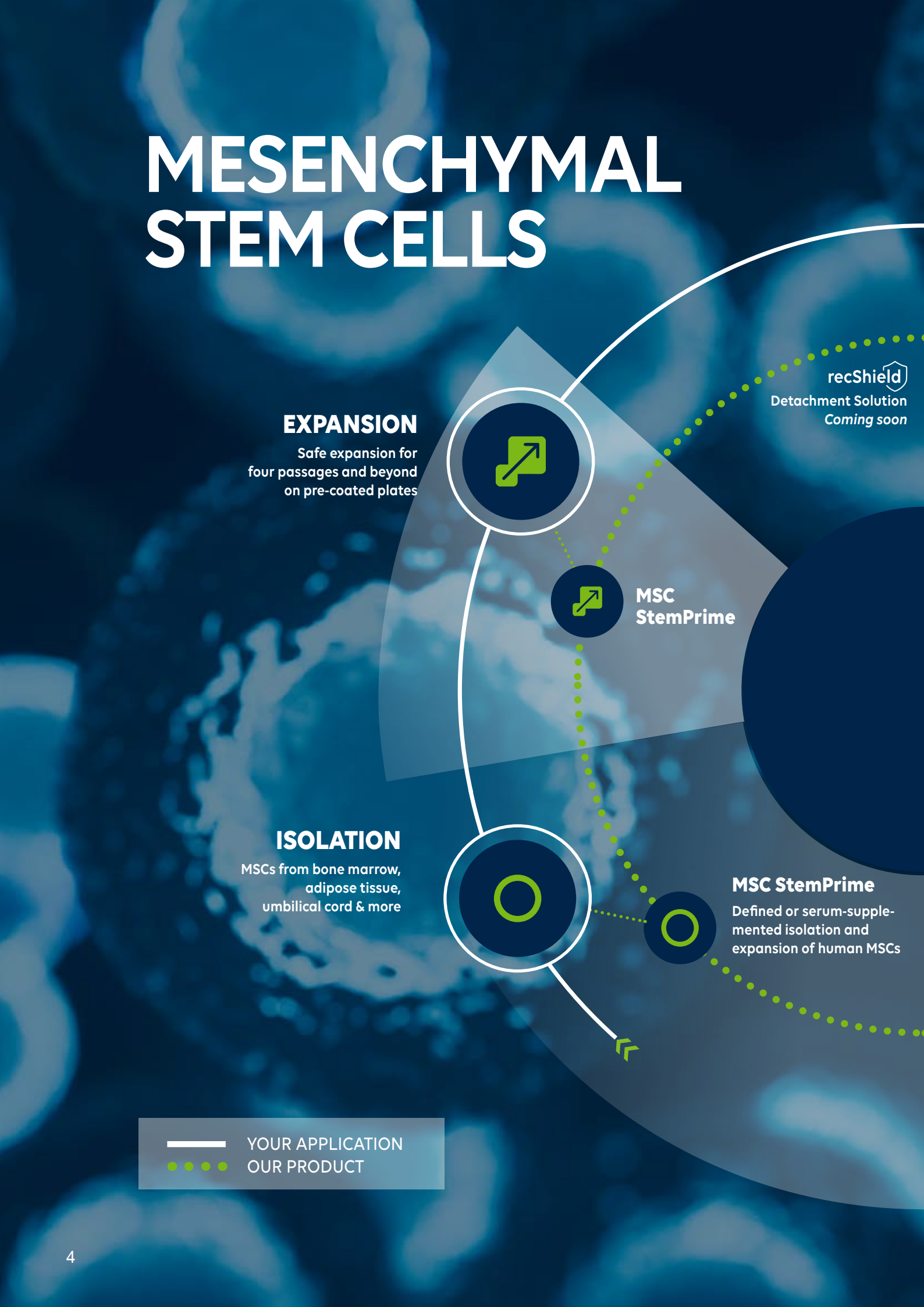
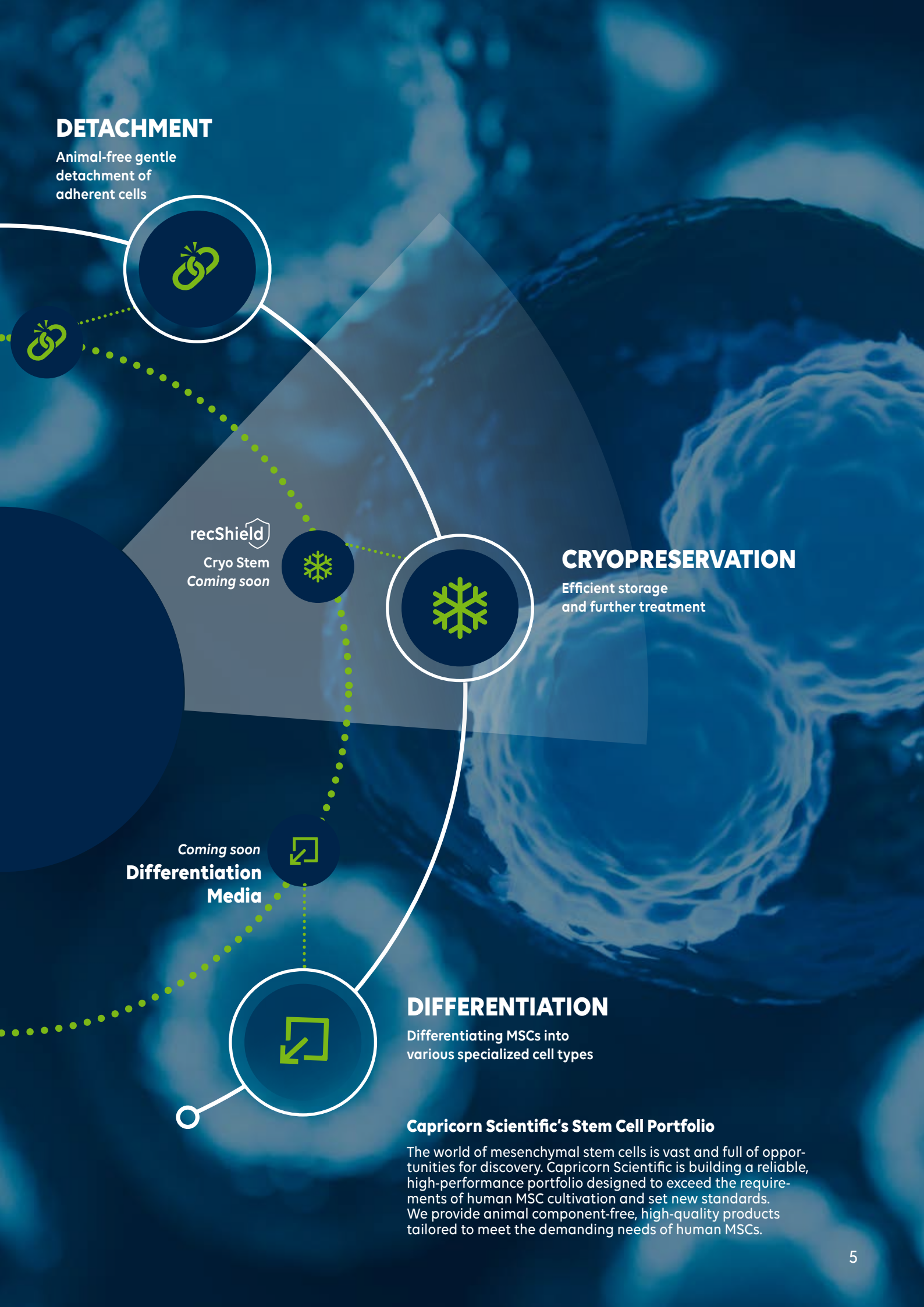
www.linkedin.com/company/capricorn-scientific

#StemPrime

Stay updated with exciting information, the latest developments, and fascinating insights on MSCs!

MESENCHYMAL STEM CELLS





Capricorn Scientific's Stem Cell Portfolio

The world of mesenchymal stem cells is vast and full of opportunities for discovery. Capricorn Scientific is building a reliable, high-performance portfolio designed to exceed the requirements of human MSC cultivation and set new standards. We provide animal component-free, high-quality products tailored to meet the demanding needs of human MSCs.

MSC Stem Prime

When culturing MSCs, maintaining homogeneity and multipotency is crucial. Cellular senescence and reduced adherence are additional factors that create bottlenecks in successful cultivation.

At florabio and Capricorn Scientific, we understand that cultivating MSCs involves more than just using a universal medium.

Therefore, we have developed a revolutionary product: MSC StemPrime, a state-of-the-art medium specifically designed to elevate your research and clinical applications.

THE NEXT-LEVEL DEFINED MEDIUM

MSC StemPrime consists of a chemically defined medium and a recombinant growth factor supplement. Together, MSC StemPrime efficiently promotes the growth and proliferation of MSCs without differentiation.

recShield

THE NEXT-LEVEL OF CELL CULTURE SAFETY

Stem cell-based research and bio manufacturing require the highest standards of safety and reliability. recShield by Capricorn Scientific is a cutting-edge product line designed to protect your cells at every stage. From efficient cell detachment to cryopreservation solutions that safeguard viability, recShield provides the security your stem cell culture depends on.

- **Reliable & Safe** Animal component-free products
- **High Consistency** Optimized formulations for superior viability and consistency
- **Versatile Solutions** Supporting all critical steps in MSC cultivation

EXPLORE WHAT MAKES
MSC StemPrime Remarkable

CHEMICALLY DEFINED MEDIUM

Animal component-free, xeno-free formulation for high consistency in a reliable culture environment

Ultra Low Endo
<< 1 EU/ml

ALL-IN-ONE SUPPLEMENT

Only one supplement to complement the medium for easy and carefree handling

FOR ALL MSCs

Efficiently supports growth and proliferation of MSCs derived from various tissues

FULLY SCALABLE

Seamless transition from R&D-scale cultivation to large-scale production

recShield

MSC StemPrime was developed by florabio

HIGH-PERFORMANCE ALTERNATIVE

To Traditional Serum-Containing Media

MORPHOLOGY AND ATTACHMENT AFTER ISOLATION

Developed by florabio, MSC StemPrime is a high-performance medium for the robust isolation and expansion of MSCs in research and clinical applications. To validate optimal performance, extensive *in vitro* testing was conducted, comparing MSC StemPrime to fetal bovine serum (FBS)-supplemented medium and competitor formulations.

Isolation of human MSCs from various tissues can be easily performed using MSC StemPrime. Umbilical cord derived MSCs (UC-MSCs) cultured in MSC StemPrime reveal superior cell attachment and characteristic fibroblast-like morphology. For certain tissues, addition of 2.0 to 2.5% human serum can be required.

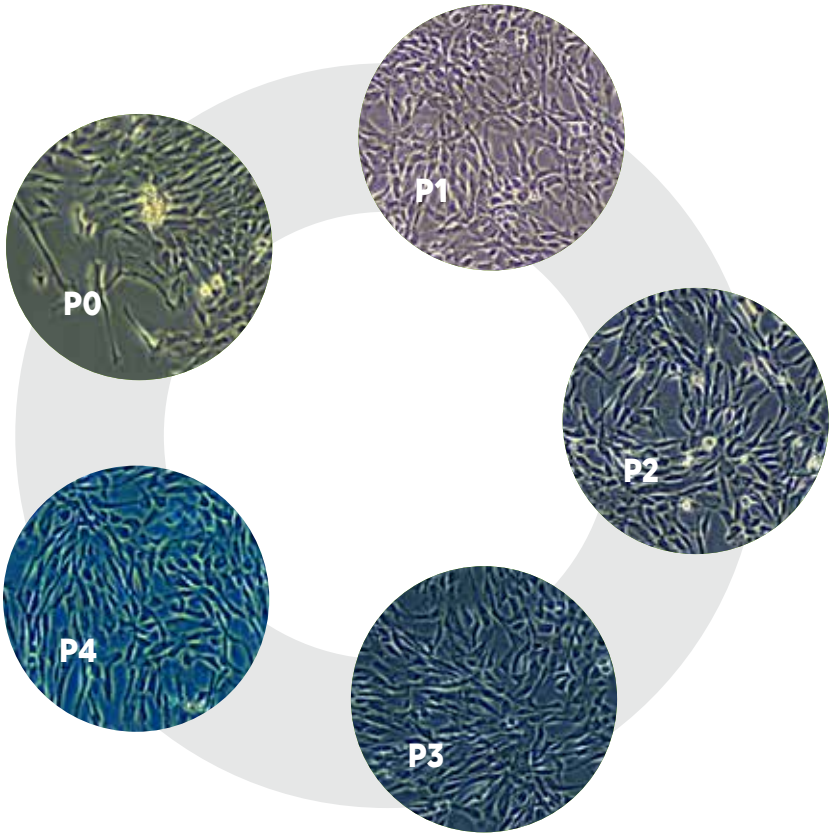
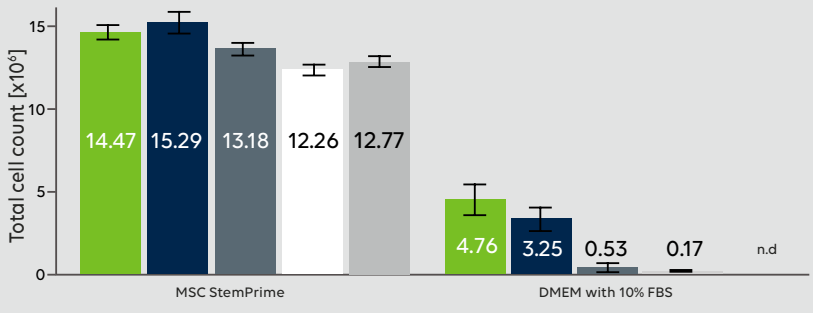


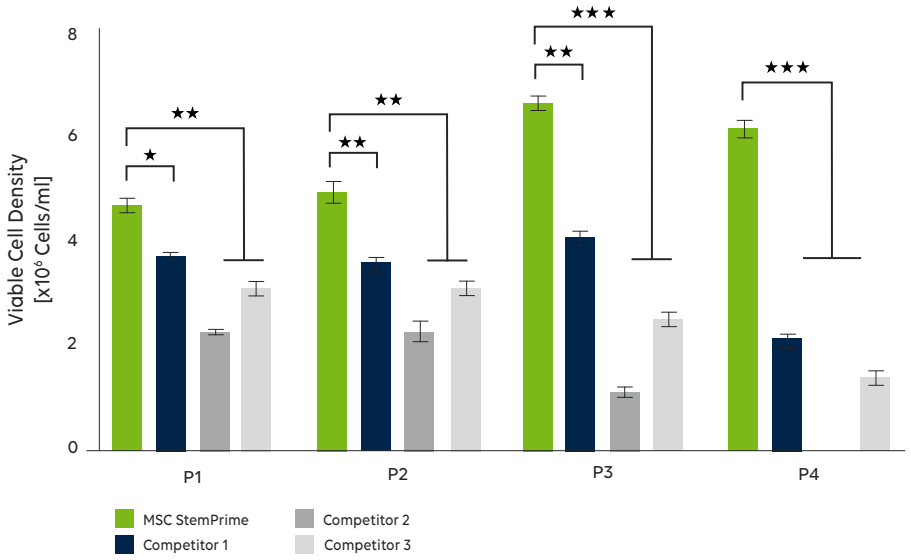
Fig. 1: P0 Microscopic analysis of UC-MSCs 10 days after isolation from umbilical cord in MSC StemPrime (+ 2.0% Human AB serum on pre-coated culture ware); P1-P4 UC-MSCs expansion in MSC StemPrime (serum-free on pre-coated culture ware).

DIFFERENTIAL EXPANSION CAPACITY OF UC-MSCs



Expansion studies demonstrated that MSC StemPrime supports higher cell proliferation rates during isolation and expansion compared to DMEM supplemented with FBS.

Fig. 2: Cell growth of UC-MSCs in MSC StemPrime vs. DMEM with 10% FBS after isolation (P0) and during expansion (P1-P4).

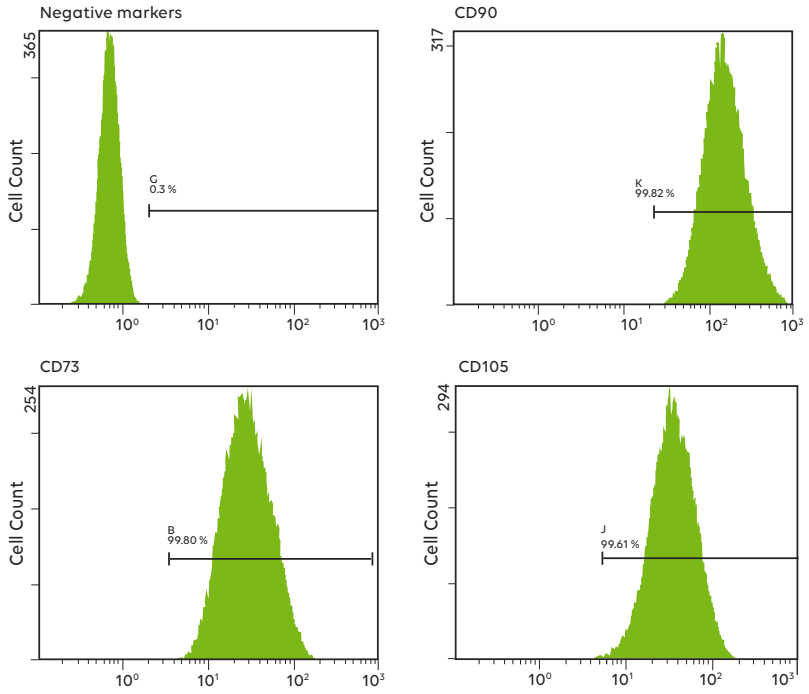


PERFORMANCE COMPARISON WITH COMPETITOR MEDIA

A side-by-side evaluation of MSC StemPrime against leading commercial MSC media demonstrated superior cell viability and consistent growth across several passages!

Fig. 3: Proliferation analysis of MSCs across four passages in MSC StemPrime (serum-free on pre-coated culture ware) and competitor media.

The indicated data shows the mean ±SEM p-values: *p<0.05, **p<0.005, ***p<0.001



SURFACE MARKER EXPRESSION

Flow cytometry analysis confirmed that MSC StemPrime maintains the classical MSC surface marker profile (CD73, CD90, CD105) across multiple passages while ensuring minimal expression of negative markers.

Fig. 4: Immunophenotyping results of UC-MSCs at passage 4 using FACS analysis. The positive markers, CD90 (99.82%), CD73 (99.80%) and CD105 (99.61%) were analyzed comparison to the negative markers (0.3 % of CD14, CD19, CD34, CD45, HLA-DR).

ISO-CERTIFIED FACILITY

WFI grade water & EP/USP grade raw materials

cGMP

Manufactured to cGMP standards

Robust quality management system

Trust is a Matter of Quality

GMP & Research Grade Production

At Capricorn Scientific, we recognize that the reliability of raw materials and production processes is crucial for cell culture products, particularly for sensitive cells like MSCs. Therefore, MSC StemPrime is produced with the utmost care to ensure exceptional performance and reliability.

In addition to our robust Quality Management System (QMS), we have a dedicated team with expertise in biopharmaceutical regulations. This team ensures that our ISO certified manufacturing processes comply with current Good Manufacturing Practices (cGMP), maintaining the highest standards in the biopharmaceutical sector.

OUR COMMITMENT TO QUALITY ENCOMPASSES RESEARCH GRADE AND EXTENDS BEYOND. THEREFORE, WE MANUFACTURE MSC STEMPRIME IN TWO GRADES:

MSC StemPrime GMP GRADE

Produced according to current Good Manufacturing Practices (cGMP) to comply with regulatory standards for clinical and commercial applications.

- Suitable for highly regulated areas, such as MSC production
- Additional quality testings and detailed documentation

Cat. No.: MSCG-K2 (500 ml)
MSCG-K1 (100 ml)

MSC StemPrime RESEARCH GRADE

Designed for preclinical studies, proof-of-concept experiments, and general academic research.

- Suitable for research and development
- Cost-efficient alternative for initial experiments

Cat. No.: MSCR-K2 (500 ml)
MSCR-K1 (100 ml)

ORDER
Information

PRODUCT	VOL.	CAT.NO.
MSC StemPrime Kit GMP Grade for Cultivation of Mesenchymal Stem Cells 1 x Chemically Defined Medium 1 x Recombinant Growth Factor Supplement	500 ml	MSCG-K2
MSC StemPrime Kit GMP Grade for Cultivation of Mesenchymal Stem Cells 1 x Chemically Defined Medium 1 x Recombinant Growth Factor Supplement	100 ml	MSCG-K1

PRODUCT	VOL.	CAT.NO.
MSC StemPrime Kit Research Grade for Cultivation of Mesenchymal Stem Cells 1 x Chemically Defined Medium 1 x Recombinant Growth Factor Supplement	500 ml	MSCR-K2
MSC StemPrime Kit Research Grade for Cultivation of Mesenchymal Stem Cells 1 x Chemically Defined Medium 1 x Recombinant Growth Factor Supplement	100 ml	MSCR-K1

ALSO AVAILABLE WITHOUT PHENOL RED – CONTACT US!

PRODUCT	VOL.	CAT.NO.
Human Serum, Type AB	100 ml	HUM-3B
Human Serum, Converted	100 ml	HUM-1B

GMP GRADE	RESEARCH GRADE
Chemically Defined	Chemically Defined
Animal Component-Free	Animal Component-Free
Ultra-Low Endotoxin	Ultra-Low Endotoxin
Available Without Phenol Red	Available Without Phenol Red
Documentation: Certificate of Analysis Certificate of Origin Certificate of Conformity ACF Statement Viral Safety Statements	**Documentation:** Certificate of Analysis
For GMP Bioprocessing and Highly Regulated Application Fields	For Research Use

THE RIGHT CHOICE FOR YOUR CELLS

Fast and Efficient
Order Processing

Customer-Oriented
Product Flexibility

Your Partner in
Cell Culture

Capricorn Scientific GmbH
Auf der Lette 13 A
35085 Ebsdorfergrund
Germany

Tel.: +49 6424 944 64 0
Fax: +49 6424 944 64-20

info@capricorn-scientific.com
techservice@capricorn-scientific.com

www.capricorn-scientific.com

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