



# PRE- & POSTNATAL DIAGNOSTICS

OPTIMIZED PRODUCTS FOR  
CONSISTENT CYTOGENETICS

# OVERVIEW

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## ENJOY THE TOUR

Watch the construction video of our new facility! In this short film, CEO & founder Harry Brack will introduce you to our company. Lean back and enjoy the view from up above ...



[www.capricorn-scientific.com](http://www.capricorn-scientific.com)

# WHY CAPRICORN?

## YOUR PARTNER IN CYTOGENETICS

Capricorn Scientific was established in 2016 as a German manufacturer of cell culture products such as sera, media, and reagents. We focus on the production of high-quality products for various fields of application in biotechnology, diagnostics, and research.

Our headquarters and production facility are located in Ebsdorfergrund, close to the Frankfurt am Main Airport (FRA). This gives us the opportunity to work with different partners and deliver with short lead times, all around the world!

By now, we are proud to offer a product range of over 200 products, directly to our customers or with the support of our worldwide distribution network.

Discover what makes Capricorn Scientific unique and how you can benefit from our knowledge and experience! When partnering with us, you can expect more than just high-quality products. Our young and passionate team, of around 65 experts, is dedicated to providing you with exceptional service – whenever and wherever you need it.

BEGINNING OF QMS  
IMPLEMENTATION

6.5 MIO. € INVESTMENT IN  
PHARMACEUTICAL PRODUCTION

2016 / 2017 / 2018 / 2021 / 2023

FOUNDATION OF  
COMPANY

ISO 9001:2015  
CERTIFICATION

NEW FOCUS WITH FULLY  
OPERATIONAL FACILITY

### OUR FACILITY

Our new 1,350 m<sup>2</sup> state-of-the-art production facility, established in 2022, features 350 m<sup>2</sup> dedicated clean room area and is characterized by spatial separation of products containing animal components and chemically-defined media.

While only chemically-defined media are produced in the lower part of the building, the upper production area is used to manufacture cell culture products containing animal components, e.g., fetal bovine serum (FBS), eliminating the risk of cross-contamination for our chemically-defined products.



# QUALITY

## MATCHING THE REQUIREMENTS OF CYTOGENETICS

*At Capricorn Scientific, quality, reliability, and a secured supply of cell culture products are our top priorities. Recently, our range of first-class products has been extended to include additional products in the field of cytogenetics, to provide you with excellent products in order to support your cytogenetic requirements.*

### **ISO 9001 AND ISO 13485: REQUIREMENTS AS BASIS OF OUR QMS**

Our products are manufactured with top-notch quality system regulations under strict clean room conditions, and in accordance with the current requirements of ISO 9001:2015 and ISO 13485:2016.

We have demonstrated our commitment to providing the highest level of customer satisfaction, continual improvement, and effective risk management. Our quality management system covers all aspects of our operations, from product development and production, to delivery and after-sales support.

With ISO 9001 certification, our customers can trust that our products and services are consistently of excellent quality and meet their expectations. We regularly review and assess our processes to ensure that we permanently improve our commitment to quality and customer satisfaction.

### **IVDR CLASSIFICATION: THE IN VITRO DIAGNOSTIC REGULATION**

The In Vitro Diagnostic Regulation (IVDR) is a new European Union regulation that aims to enhance the safety and accuracy of in vitro diagnostic (IVD) products. This regulation is set to improve the quality of healthcare by ensuring that all IVD medical devices are validated through a rigorous and transparent assessment process.

At Capricorn Scientific, we understand the importance of the IVD regulations and are committed to ensuring that all our IVD products meet these requirements. Therefore, our team of experts have extensive experience and knowledge in the industry and are working closely with the relevant authorities. Consequently, Capricorn Scientific was one of the first successfully audited manufacturers and received permission to produce CE-marked reagents.





## YOUR RELIABLE PARTNER IN CYTOGENETICS

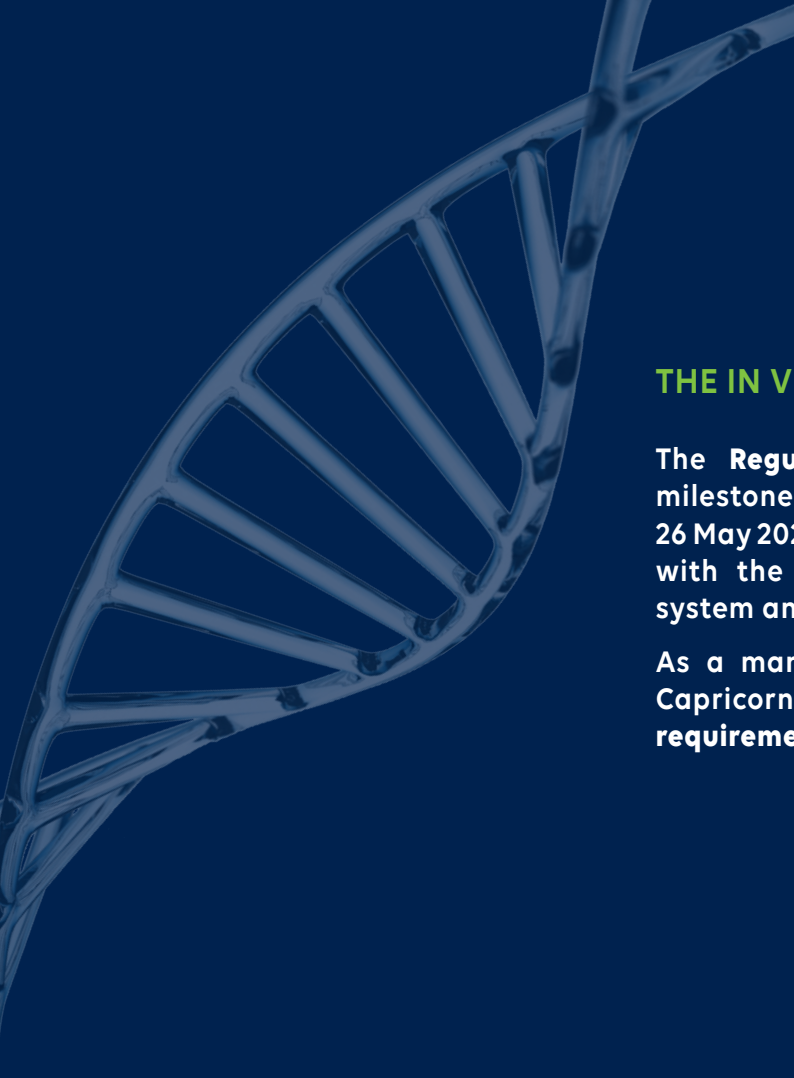
- ✓ Quality-driven products made in Germany
- ✓ Large bulk quantities for secured supply
- ✓ Competitive prices and long shelf life



## QUALITY IS THE KEY TO OUR SUCCESS

- ✓ In accordance with ISO 9001 & ISO 13485
- ✓ CE-marked products for IVD
- ✓ Meeting all IVDR requirements





## THE IN VITRO DIAGNOSTIC REGULATION (IVDR)

The Regulation (EU) 2017/746 (IVDR) sets a new milestone for *in vitro* diagnostic medical devices. Since 26 May 2022, all IVDs placed on the market must comply with the IVDR via a new rule-based classification system and increased requirements.

As a manufacturer of *in vitro* diagnostic products, Capricorn Scientific ensures that all relevant regulatory requirements of the IVDR are met.





## GERMAN PRODUCTION FACILITY ON PHARMACEUTICAL LEVEL

To support your needs, we have built a state-of-the-art 1,350 m<sup>2</sup> production facility in Ebsdorfergrund, close to Frankfurt, Germany. This facility guarantees an excellent quality standard for cell culture products due to the rigorous separation of animal and chemically-defined products on two different floors. In compliance with strict pharmaceutical clean room conditions, we manufacture our products according to GMP guidelines, ISO 9001, and ISO 13485.

- ✓ State-of-the-art production facility
- ✓ Rigorous separation of animal & chemically-defined products
- ✓ Consistent performance due to large-scale production

Our investments in expanding our facility and increasing our production capacity have enabled us to manufacture our products in bulk quantities. This large-scale production ensures the consistent performance of your purchased goods due to increased batch availability, and furthermore enables an international, cost-effective, and secured supply.

## UNMATCHED QUALITY WITH CE-MARKED AND READY-TO-USE MEDIA

Our CE-marked IVD products are tested for their first-class quality by independent cytogenetic laboratories and are designed to meet the highest standards of quality and safety. Consequently, regardless of the application in which our products are utilized, you will obtain dependable results.

Ready-to-use products are an excellent solution for saving time, streamlining your processes, and improving efficiency. Furthermore, you can eliminate the risk of contamination due to our intensive quality control in house – assuring a better health care for your patients.

- ✓ Consistent quality & documentation
- ✓ Save time & effort
- ✓ Reduce risk of contamination

# AMNIO PRIME

## DISCOVER THE POWER OF PRECISION

### PRENATAL DIAGNOSTICS

In order to evaluate chromosomal abnormalities associated with the fetus, karyotyping is a crucial procedure in the field of cytogenetics.

This analysis is performed through amniocentesis or chorionic villi sampling. The amniotic fluid or chorionic tissue is rich in fetal cells, which are used for the preparation of karyograms.

In the process, fetal cells are cultivated and harvested in the metaphase, to prepare the chromosomes for further evaluation under the microscope.

**Prenatal diagnostics can help detect diseases that can be treated immediately after birth.**

### HIGH MITOTIC INDEX AND RAPID GROWTH

Our AmnioPrime is specifically designed and qualified for the field of prenatal diagnostics. All batches of AmnioPrime are tested and CE-marked, making it a trusted and dependable solution. With pre-selected fetal bovine serum (FBS), optimized concentrations of L-glutamine and gentamicin, it offers a significant improvement for the growth of amniocytes and chorionic villi cells.

- ✓ Rapid and clear results
- ✓ High mitotic index
- ✓ Outstanding growth rates & morphology

A high mitotic index enables an excellent quality of chromosome morphology and a high yield of analyzable metaphase cells for karyograms. AmnioPrime facilitates fast attachment of cells and promotes rapid cell growth, while simultaneously inhibiting other unwanted cell types.



PRODUCT	VOLUME	REF
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<b>AmnioPrime</b> Complete Medium for Cultivation of Amnion and Chorionic Villi Cells	100 ml	APR-B
	500 ml	APR-A



## CULTURING AMNIOCYTES WITH AMNIO PRIME

The results of prenatal diagnostics must be available for the patient as soon as possible. With our AmnioPrime, you can achieve reliable results within **7 days**.

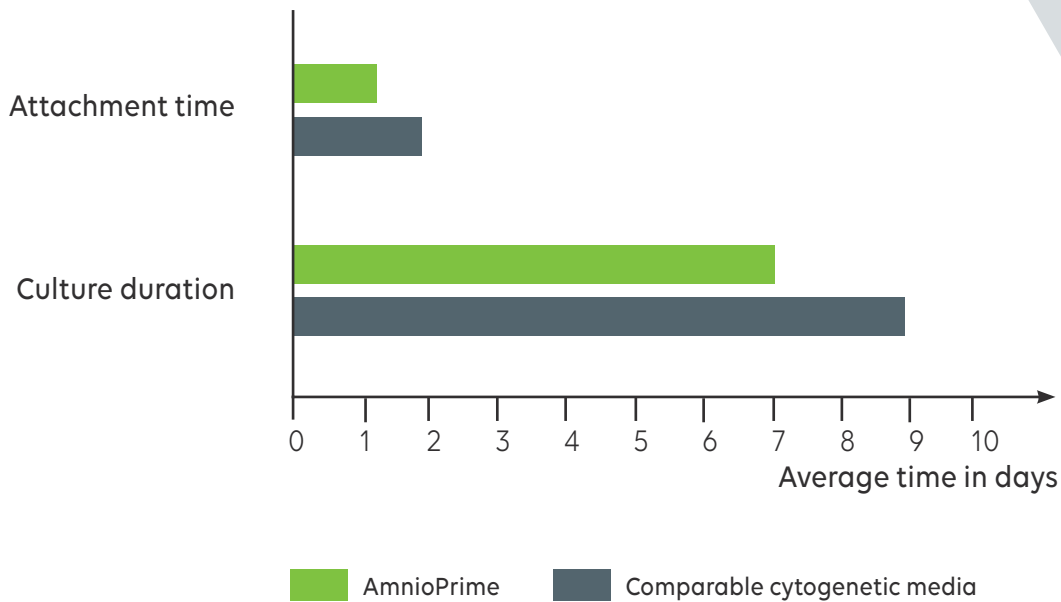


Figure 2: Faster attachment time and shorter culture duration than comparable cytogenetic media. Tested by independent laboratories.

### ADVANTAGES

- ✓ Fully supplemented & ready to use
- ✓ Rapid cell expansion
- ✓ Excellent chromosome morphology

### APPLICATIONS

- ✓ Culture of amniocytes & chorionic villi cells
- ✓ Supports prenatal *in vitro* & *in situ* analyzes
- ✓ Compatible with open & closed systems

**AmnioPrime is a ready-to-use medium for an accurate & reliable prenatal diagnosis.**

# LYMPHO PRIME

## THE NEXT GENERATION MEDIUM FOR YOUR CYTOGENETIC ANALYSIS

### POSTNATAL DIAGNOSTICS

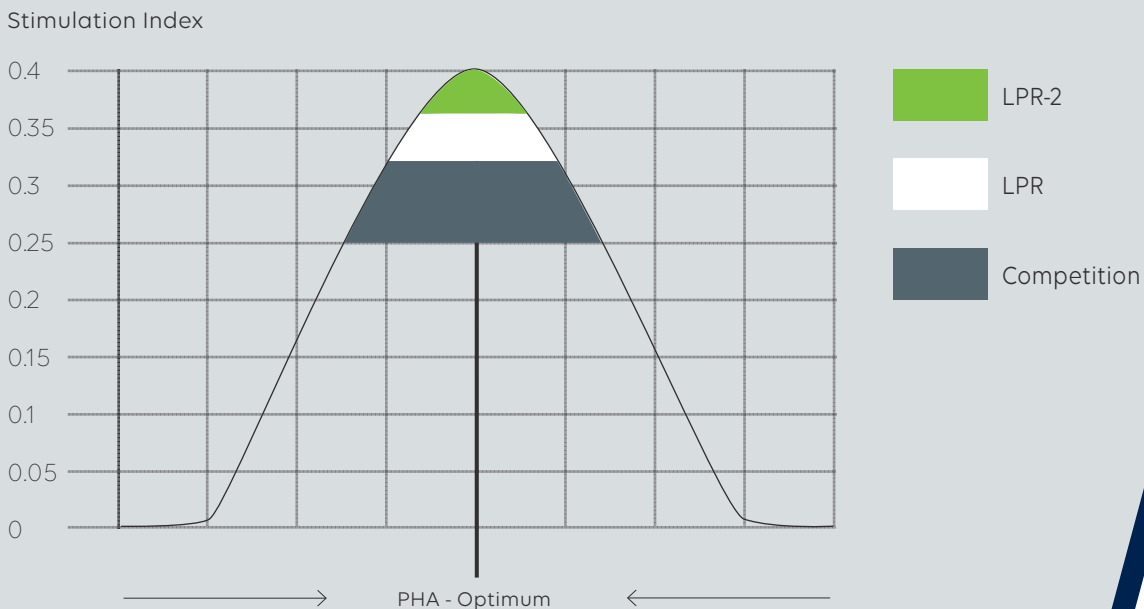
Blood cell karyotyping of lymphocytes is an important tool in human cytogenetics to detect chromosomal abnormalities performed on individuals after birth. It involves culturing lymphocytes from peripheral blood, followed by chromosomal analysis.

**Rapid results are essential for an effective postnatal diagnosis.**

Lymphocytes usually do not undergo subsequent cell divisions. In the presence of a mitogen (e.g., PHA-M; Cat. No. PHA-H), lymphocytes are stimulated to enter mitosis.

After 48–72 hours, a mitotic inhibitor (e.g., Colcemid; Cat. No. COL-H) is added to the culture to stop mitosis in the metaphase stage. After treatment, chromosomes can be microscopically observed and evaluated for abnormalities.

### OPTIMIZED PHA-M CONCENTRATION AND FINEST QUALITY



**Figure 1: Stimulation index**  
(amount of cells for diagnosis/ amount of cells at start of culture)

Tested by independent laboratories in comparison with similar media. Both our LymphoPrime media contain an optimized PHA-M concentration to stimulate lymphocytes to a maximum. Only at this level of stimulation, the growth of lymphocytes is sufficient enough for an accurate diagnosis.

## LYMPHO PRIME

### HIGH-QUALITY MEDIUM FOR YOUR ANALYSIS

LymphoPrime is Capricorn's comprehensive solution for the optimal cultivation of peripheral blood lymphocytes. This specialized formula is comprised with a blend of essential components, including a modified basal medium, L-glutamine, antibiotics (penicillin/streptomycin), phytohemagglutinin (PHA-M) and pre-tested fetal bovine serum (FBS), to ensure maximum growth and overall performance.

LymphoPrime offers the ideal environment for the cultivation of a substantial amount of peripheral blood lymphocytes. As a result, it facilitates the preparation of chromosomes for karyotyping, enabling the production of distinct karyograms and identification of any chromosomal aberrations.

## INTRODUCING: LYMPHO PRIME 2

### DEVELOPED TO EXTEND SHELF LIFE AND IMPROVE PERFORMANCE

Recently, we have launched **LymphoPrime 2**, a further optimized medium designed for excellent short-term cultivation of peripheral blood lymphocytes for chromosomal evaluation. With years of know-how, we have developed a formulation which results in a better performance and longer product stability. Now, you have access to a cutting-edge solution for your cytogenetic analyses with an extended shelf life of up to two years.

This second-generation medium was developed to improve chromosome morphology and provide clearer results – all within a ready-to-use solution.

*LymphoPrime is a rapid culture solution for your in vitro procedures, saving time and effort.*

### ADVANTAGES

- ✓ Fully supplemented & ready to use
- ✓ Optimized PHA-M concentration
- ✓ Extended shelf life for LymphoPrime 2

### APPLICATIONS

- ✓ Short-term cultivation of lymphocytes
- ✓ Postnatal chromosome analysis (karyotyping)
- ✓ Stimulation of lymphocyte growth



**NEW**

#### PRODUCT

#### VOLUME

#### REF

#### LymphoPrime 2

Complete Medium for  
Peripheral Blood Lymphocytes

100 ml

LPR2-B

#### LymphoPrime

Complete Medium for  
Peripheral Blood Lymphocytes

100 ml

LPR-B



# MARROW PRIME

## UNLOCK THE POWER OF YOUR TUMOR CYTOGENETICS

### TUMOR CYTOGENETICS

Tumor cytogenetics play a crucial role in detecting chromosomal aberrations in tumor cells and tissues.

In 1960, Peter Nowell and David Hungerford discovered the first chromosomal abnormality associated with cancer using cytogenetics. They identified an abnormal chromosome (Philadelphia chromosome), that was present in patients with chronic myeloid leukemia, a form of cancer that causes unrestricted growth of myeloid cells in the bone marrow.

**Experience the benefit of accurate and reproducible cell cultures with MarrowPrime.**

Since the discovery of this particular chromosomal rearrangement, thousands of other chromosomal aberrations have been determined to be associated with cancer.

Therefore, accurate and reproducible cell cultures are a crucial factor for reliable tumor diagnostics.

### UNLOCK THE FULL POTENTIAL OF YOUR CYTOGENETICS WITH MARROW PRIME

The cultivation of cells of the blood generating systems, especially for leukemia detection, depends strongly on the reliability, homogeneity, and reproducibility of the medium in use.

With MarrowPrime, Capricorn Scientific is offering an advanced and specialized medium for establishing cultures of bone marrow and leukemic blood cells, which may be used in cytogenetic procedures.

This innovative medium is based on a proven formula that combines a basal medium, rigorously pre-tested fetal bovine serum (FBS), and a well-balanced collection of growth components.

**Enhance your diagnostic ability to culture cells for improved detection of malignancies.**

Especially designed for *in vitro* use for a wide range of cytogenetics procedures, including karyotyping and fluorescence *in situ* hybridization (FISH), MarrowPrime can also be used as a non-specific medium to culture the different hematopoietic cells, like myeloid or lymphoid lineages present in the bone marrow.



#### PRODUCT

#### VOLUME

#### REF

**MarrowPrime**  
Complete Medium for  
Bone Marrow Cells

100 ml

MP-B

**CAPRICORN**  
SCIENTIFIC

MarrowPrime  
Complete Medium for Bone Marrow Cells

REF: MP-B  
LOT: CP40-1002  
Volume: 100 ml  
Storage: ≤ -15°C

CE  
IVD  
STERILE A

Capricorn Scientific GmbH  
www.capricorn-scientific.com



*From start to finish, we've got you covered with everything you need for the most precise karyotyping results.*

#### ADVANTAGES

- ✓ Fully supplemented & ready to use
- ✓ Superior performance
- ✓ Precise chromosome analysis & excellent morphology

#### APPLICATIONS

- ✓ Culture of bone marrow & leukemic blood cells
- ✓ Detection of chromosomal aberrations
- ✓ Fluorescence *in situ* hybridization (FISH)
- ✓ Postnatal diagnostic, especially leukemia detection

# SUPPLEMENTS

## AND ADDITIONAL PRODUCTS



### OPTIMIZE YOUR RESULTS WITH COLCEMID: THE TRUSTED CHOICE FOR METAPHASE ARREST

Colcemid is your go-to solution for capturing the exact chromosomal state in your *in vitro* diagnostic studies. It inhibits the formation of spindles during cell division, arresting the cells in the metaphase stage. In this way, the chromosomes can be fixed and observed for further analysis.

Colcemid is similar to colchicine, but less toxic for mammalian cells.



### UNLOCK THE POWER OF PHA-M: THE SECRET TO EFFICIENT CELL PROLIFERATION

Are you looking for a way to boost cell growth and proliferation in your research? Phytohemagglutinin (PHA), a mitogen that is used for the stimulation of cell proliferation in lymphocytes, has the unique ability to stimulate the division and growth of a variety of cells – human and animal. Whether you are working with immune cells, blood cells, or other types of cells, PHA provides a reliable and efficient way to increase cell yield.

For more reagents including media and fetal bovine serum (FBS), scan our QR code or contact us at:

[info@capricorn-scientific.com](mailto:info@capricorn-scientific.com)





	PRODUCT	VOLUME	REF
<b>REAGENTS &amp; SUPPLEMENTS</b>	<b>Colcemid Solution (10 µg/ml)</b> in DPBS	10 ml	COL-H
	<b>Phytohemagglutinin M (PHA-M)</b>	10 ml	PHA-H
	<b>Potassium Chloride (KCl, 0.075 M)</b>	100 ml	KCL-B
	<b>L-Glutamine Solution (200 mM)</b>	100 ml	GLN-B
<b>DETACHMENT</b>	<b>Trypsin-EDTA (0.05 %)</b> in DPBS (1x)	100 ml	TRY-1B
	<b>Trypsin-EDTA (0.5 %)</b> in DPBS (10x)	100 ml	TRY-1B10
	<b>Trypsin (0.25 %)</b> in DPBS (1x)	100 ml	TRY-2B
	<b>Trypsin (2.5 %)</b> in DPBS (10x)	100 ml	TRY-2B10
	<b>Trypsin-EDTA (0.05 %)</b> in HBSS (1x) <b>with Phenol Red</b>	100 ml	TRY-4B
	<b>Trypsin-EDTA (0.25 %)</b> in HBSS (1x) <b>with Phenol Red</b>	100 ml	TRY-3B

*Save valuable time and experience  
the benefits of our products and services.*

# WHY US?



Fast and Efficient  
Order Processing



Customer-Oriented  
Product Flexibility



Your Partner in  
Cell Culture



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