

PANTM
BIOTECH

26 years
made in
Germany!

www.pan-biotech.de
www.pan-biotech.com

Dear valued customer

We think that the current biotech industry favors experienced, mid-sized and flexible producers with a broad product portfolio, strong research and development capabilities, best-in-class quality, strong business partner relationships and a wide geographic reach. During the last 26 years PAN-Biotech demonstrated its strength with innovative, first-class quality products and excellent services for cell culture around the globe.

For you, as users and customers of cell culture products, the supply situation has changed rapidly in first quarter of 2013. Due to several mergers and acquisitions of bigger as well as smaller companies there were frictions and changes in supply chains. The customer problems and frustrations were highlighted with the question(s):

Can you deliver / support us / rescue our production...? YES, WE CAN !

We can supply FBS, media, reagents and all other products presented in this catalogue

We can support you

We can develop / optimise your media and much more

Our market prediction for 2013 was more frictions and turbulences. Some of the recent acquisitions went through the same route: logistic changes, lack of customer responsiveness, delivery problems, price increases, intransparency and so on. The overall results for customers was a limited choice of vendors and huge international conglomerates with reduced customer service.

PAN-Biotech still remains as one of a few privately owned, ownership managed companies. We value our customers, we value their needs and requirements, we value product quality, we value openness and transparency, we value service and commitments, we value trust and partnership. We followed along these values for the last 26 years and we intend to keep these values for the next 26 years.

We thank all our existing customers, our dedicated and highly motivated staff and our suppliers and industry partners who made possible

26 years biotech made in Germany by PAN-Biotech

And we cordially welcome all our new customers, OEM partners and interested international distributors as well as new business partners. We guarantee you the values described above and our personal commitment for excellent products and services.

Yours sincerely

Christian Niewolik & Jens Hartmann
Owners & Managing Directors

March, 2014

PAN-Biotech GmbH
Phone: +49 (0)8543/6016-30 Fax: +49 (0)8543/6016-49
www.pan-biotech.de www.pan-biotech.com
info@pan-biotech.de

1. Serum	2 - 13
Introduction	3
Certificate of Suitability	3 - 4
Bovine Serum	5
FBS Good Product Family	5 - 6
Special Fetal Bovine Serum	7
Certificate of Analysis	8 - 9
Treated Serum	10 - 11
Other Animal Serum	11
Human Serum	12
Serum Services	12 - 13
2. Serum-free Systems	14 - 35
Introduction & Product Numbers	15 - 17
Serum Substitutes	18 - 20
Serum-free Media	21 - 35
3. Media	36 - 77
Introduction	37
Cell Culture Media	38 - 71
Cell Specific Media	72 - 77
4. Serum-free Stem Cell Media	78 - 91
Introduction	79
Stem Cell Media	80 - 91
5. Reagents	92 - 113
Media Supplements	93
Buffered Salt Solution	94 - 96
Amino Acids and Vitamins	97
Antibiotics and Antifungal Drugs	98 - 99
Enzymes for Cell Dissociation	100 - 101
Attachment Factors	102 - 104
Separating Solutions	105
Separating Solutions Pre-Filled	106
PAN SL-S Product Line	107
Cryo Preservation	108
Disinfectants	109 - 113
6. Biologicals	114 - 121
Introduction	115
Human Cytokines and Growth Factors	116 - 118
Other Species Cytokines and Growth Factors	119
Chemokines	120
7. Molecular Biology	122 - 133
Polymerases	123 - 128
Molecular Biology Reagents	129 - 133
8. PANsys	134 - 136
Introduction	135
PANsys 3000	135 - 136

Serum

Introduction	3
Certificate of Suitability	3-4
Bovine Serum	5
FBS Good Product Family	5-6
Special Fetal Bovine Serum	7
Certificate of Analysis	8-9
Treated Serum	10-11
Other Animal Serum	11
Human Serum	12
Serum Services	12-13

Introduction

The function of serum in cell cultures

- Stimulates cell growth, proliferation and differentiation through hormonal factors
- Adhesion factors facilitate and enhance cell attachment on culture dishes (bio-matrix)
- Transport and binding proteins provide hormones, minerals and lipids
- Inhibition of toxic substances by binding to serum proteins

Animal serum

The dose of serum added to a cell culture as nutrient source depends on factors such as cell type, primary culture or cell line, adherent or suspension culture, and usually is in the range of 5 % to 15 % of the total liquid volume and most times used at 10 %.

Serum is produced from animal blood and fetal bovine serum is the most widely used because it contains an especially high amount of growth factors due to its origin – the blood of fetuses is a by-product of slaughtered cattle.

Advantages of PAN-Biotech

- Own raw material resources in different countries: Australia, South Africa, South America (Brazil) and the United States of America (USA)
- Certificate of Suitability (COS) no. RI-CEP 2002-167-Rev 00
- Licensed according to the EU-decree no. 1774/2002 with vet. no. DE 09 275 0001 14
- Every single batch is fully documented – from the country of origin to the end product
- Every process, from collection of raw serum to production, is specified in standard operating instructions (SOP) which will be provided upon request
- We offer special types of serum: charcoal absorbed, delipidized, dialyzed, gamma irradiated, heat inactivated and gamma globulin reduced
- Highest production and safety standards for serum manufacturing
- Best references from industry and research
- Extensive analyses and tests are presented in Certificate of Analysis (CoA)

We exclusively use serum from guaranteed BSE-free collection areas. In addition, we can also confirm that South Africa, as a country of origin, is free from scrapie. No serum batches from Great Britain as the country of origin are processed by PAN-Biotech. We warrant the submission of a complete documentation, consisting of a certificate of origin and a veterinary certificate, shipping documents and a certificate of analysis. Furthermore, every single procedure during an individual production process is documented and then summarized in a production protocol.

Certificate of Suitability

Declaration


The manufacturing process and quality control testing are performed in accordance with the submitted records and with a suitable quality assurance system in compliance with ISO 9001 quality standards. This quality assurance system verifies traceability and batch consistency. PAN-Biotech conducts internal and external audits for its quality system on an annual basis. In addition, PAN-Biotech audits its raw material serum suppliers on a cyclical basis and reviews the facilities, manufacturing processes and documentation for the collection, handling, storage and transport of raw serum. PAN-Biotech is willing to be inspected, in accordance with the relevant legislation, on request of a relevant authority before and/or after being granted a certificate of suitability.

Production site:

PAN-Biotech GmbH
Am Gewerbepark 13
94501 Aidenbach / GERMANY

Serum Hotline: +49(0)8543/6016-55

edqm
European Directorate for the
Quality of Medicines & HealthCare
Certification of Substances Division


COUNCIL OF EUROPE
CONSEIL DE L'EUROPE

**Certificate of suitability
No. R1-CEP 2002-167-Rev 00**

1 *Name of the substance:*
2 **FOETAL BOVINE SERUM**

3 *Name of holder:*
4 **PAN BIOTECH GMBH**
5 Am Gewerbepark 13
6 Germany-94501 Aidenbach

7 *Site(s) of production:*
8 **PAN BIOTECH GMBH**
9 Am Gewerbepark 13
10 Germany-94501 Aidenbach

11 **THIS CERTIFICATE SUPERSEDES THE PREVIOUS CERTIFICATE**
12 **R0-CEP 2002-167-REV 01**

13 After examination of the information provided on the origin of raw material(s) and type of
14 tissue(s) used and on the manufacturing process for this substance on the site(s) of
15 production mentioned above, we certify that the substance **FOETAL BOVINE SERUM**
16 meets the criteria described in the current version of the monograph Products with risk
17 of transmitting agents of animal spongiform encephalopathies no. 1483 of the European
18 Pharmacopoeia, current edition including supplements.

19 – country(ies) of origin of source materials: Australia and Brazil
20 – nature of animal tissues used in manufacture: Foetal bovine blood

21 The submitted dossier must be updated after any significant change that may alter the
22 quality, safety or efficacy of the substance, or that may alter the risk of transmitting
23 animal spongiform encephalopathy agents.

24 Manufacture of the substance shall take place in accordance with a suitable quality
25 assurance system such as ISO 9001, and in accordance with the dossier submitted.

26 Failure to comply with these provisions will render this certificate void.

27 The certificate is valid provided there has been no deterioration in the TSE status of the
28 country(ies) of origin of the source material.

Address: 7, allée Kastner, CS 30026 - F - 67081 Strasbourg (France)
Telephone: 33 (0) 3 88 41 30 30 - Fax: 33 (0) 3 88 41 27 71 - e-mail: cep@edqm.eu
Internet : <http://www.edqm.eu>

Bovine Serum

Bovine serum is the blood fraction remaining after the natural coagulation of blood, followed by centrifugation to remove any remaining red blood cells. The production of bovine serum at PAN-Biotech is tightly controlled, from the collection of serum at the slaughterhouse

and throughout the whole production cycle which is performed without exception in our own production facilities in Aidenbach, Germany. All serum lots are virus and mycoplasma tested.

Fetal Bovine Serum , Australia origin	100 ml 500 ml	P30-1301 P30-1302	
Fetal Bovine Serum , South Africa origin	100 ml 500 ml	P30-1505 P30-1506	
Fetal Bovine Serum , South America origin	100 ml 500 ml	P30-3305 P30-3306	
Fetal Bovine Serum , US admissible	100 ml 500 ml	P30-1701 P30-1702	
Fetal Bovine Serum , US origin	100 ml 500 ml	P30-1401 P30-1402	
Fetal Bovine Serum Premium , South Africa origin	100 ml 500 ml	P30-1501 P30-1502	
Fetal Bovine Serum Premium , South America origin	100 ml 500 ml	P30-3301 P30-3302	
Sera Pro , Fetal bovine serum, low Endotoxin, EU approved	100 ml 500 ml	P30-5100 P30-5500	NEW
FBS EU Professional , Filtrated bovine serum, EU approved	100 ml 500 ml	P30-8100 P30-8500	
Bovine Serum , variable origins	100 ml 500 ml	P30-0601 P30-0602	
Calf serum - newborn , variable origins	100 ml 500 ml	P30-0401 P30-0402	

FBS Good Product Family

The FBS Good product family contains specially processed serum products. Serum of selected batches is filtrated and separated into individual components by a sophisticated chromatographic method. The growth promoting components contained in the serum are then combined and restored in a defined process. Compared to conventional fetal bovine serum the FBS Good product family has been shown to support and promote cell growth of many different cell types equally well or even better.

Advantages

- Innovative new products
- Minor batch to batch variation
- Once tested – always same quality
- No batch testing required
- No lot reservation required

FBS Good Product Family

FBS Good, Filtrated bovine serum, Australia origin	100 ml	P40-39100	NEW
	500 ml	P40-39500	
FBS Good, Filtrated bovine serum, EU approved	100 ml	P40-37100	NEW
	500 ml	P40-37500	
FBS Good, Filtrated bovine serum, US origin	100 ml	P40-38100	NEW
	500 ml	P40-38500	
FBS Good Forte, Filtrated bovine serum with Additive Fortifier, Australia origin	100 ml	P40-49100	NEW
	500 ml	P40-49500	
FBS Good Forte, Filtrated bovine serum with Additive Fortifier, EU approved	100 ml	P40-47100	NEW
	500 ml	P40-47500	
FBS Good Forte, Filtrated bovine serum with Additive Fortifier, US origin	100 ml	P40-48100	NEW
	500 ml	P40-48500	
FBS Good Biotech, Filtrated bovine serum, Australia origin, tested acc. EMEA 1793 and Ph. Eur. 2262*	100 ml	P40-59100	NEW
	500 ml	P40-59500	
FBS Good Biotech, Filtrated bovine serum, US origin, tested acc. EMEA 1793 and Ph. Eur. 2262*	100 ml	P40-58100	NEW
	500 ml	P40-58500	

*tested upon request and produced after receipt of order

FBS Good

By developing FBS Good we wanted to create a naturally defined serum with a sustained growth promoting property and a higher safety. FBS Good only contains serum of highest quality from defined countries as specified. It is not blended or enhanced by addition of growth factors or proteins.

FBS Good advantages

- Reproducible growth properties
- Very low endotoxin level
- Suitable for a great variety of cells
- Continuous quality control

FBS Good Forte

By developing FBS Good Forte we wanted to create a naturally defined serum with an increased growth promoting property and a higher safety. Therefore, additional growth fortifying compounds have been added to increase cell proliferation. FBS Good Forte only contains serum of highest quality from defined countries as specified. In addition, growth promoting and stabilizing compounds (e.g. proteins, salts, sugars, vitamins) have been added to further enhance the stability of the serum as well as the proliferation of many different cell types.

FBS Good Forte advantages

- Reproducible enhanced growth properties
- Very low endotoxin level
- Suitable for many different cell types
- Continued high quality
- No more batch testing required

FBS Good Biotech

By developing FBS Good Biotech we wanted to create a naturally defined serum with a sustained growth promoting property and a higher safety. It is tested according to EMA (also known as EMEA) and Ph. Eur. guidelines for use in the bio-pharmaceutical industry. FBS Good Biotech only contains serum of highest quality from defined countries as specified. It is not blended or enhanced by addition of growth factors or proteins.

FBS Good Biotech advantages

- Tested according to EMEA CPMP/BWP/1793/02
- Tested according to Ph. Eur. 01/2008:2262
- Very low endotoxin level
- Suitable for bio-pharmaceutical processing
- Expanded quality control

Special Fetal Bovine Serum

Pansera ES, Fetal bovine serum, Australia origin, special designed for embryonic stem cells	100 ml	P30-2605	NEW
	500 ml	P30-2606	
Pansera ES, Fetal bovine serum, EU approved, special designed for embryonic stem cells	100 ml	P30-2601	
	500 ml	P30-2602	
Pansera ES, Fetal bovine serum, US origin, special designed for embryonic stem cells	100 ml	P30-2608	NEW
	500 ml	P30-2609	
Fetal Bovine Serum Biotech, Australia origin, tested acc. EMEA 1793 and Ph. Eur. 2262*	100 ml	P40-1301	NEW
	500 ml	P40-1302	
Fetal Bovine Serum Biotech, US origin, tested acc. EMEA 1793 and Ph. Eur. 2262*	100 ml	P40-1401	NEW
	500 ml	P40-1402	

*tested upon request and produced after receipt of order

Pansera ES

Our specially developed, proprietary processing methodology for serum enables us to offer a special fetal bovine serum for embryonic stem cells (ES).

Advantages

- Reproducible constant growth properties
- Improved cloning efficiency
- More undifferentiated clones
- Permanent strict quality control
- No need for further testing of different batches

Fetal Bovine Serum Biotech

The bio-pharmaceutical industry is facing a constantly growing demand for high quality, extensively tested fetal bovine serum originating from FDA-approved regions. PAN-Biotech is meeting this demand and offers a new product, Fetal Bovine Serum Biotech, which is tested according to EMA (also known as EMEA) and Ph. Eur. guidelines.

Fetal Bovine Serum Biotech originates exclusively from Australia or the USA, both of which are approved regions by FDA's CFR. The entire production process is followed by close inspections and quality controls – from the collection of raw material to the final production and sterile filtration procedure, all steps are documented and traceable.

Especially a possible contamination with bovine viruses has to be excluded. Therefore, a multitude of tests is performed to meet highest safety requirements.

This product is tested according to EMEA CPMP/BWP/1793/02 and Ph. Eur. 01/2008:2262 upon request. In addition, EMA/410/01 rev. 3 and EMA/CHMP/BWP/457920/2012 rev. 1 are also included as guidelines for testing procedures. Besides extensive testing for viral contamination, supplementary sterility testing is performed before, during and after filling of the product.

Application

Fetal Bovine Serum Biotech is particularly suited for the production of virus, vaccine, monoclonal antibodies, recombinant protein and growth factors, as well as the manufacture of other bio-pharmaceutical products.



Certificate of Analysis
Fetal Bovine Serum

Origin: Australia

Product	Description	Catalogue-No.	Size
FBS	Fetal bovine serum, Australia origin	P30-1301 P30-1302	100 ml 500 ml

Lot No.: P140118

Date of production: January 09, 2014

Storage, stability, shipping:

Storage: -20° C
Stability: 6 years from date of production
Shipping: on dry ice

Parameter	Result	Units
Appearance	amber liquid	n.a.
pH value	7.46	n.a.
Osmolality	296	mOsm/kg
Hemoglobin	13.0	mg/100 ml
Endotoxin	0.113	ng/ml
Total protein	38.79	mg/ml
Albumin	29.57	mg/ml
alpha-Globulin	5.03	mg/ml
beta-Globulin	4.19	mg/ml
IgG	254	µg/ml
Glucose	109.1	mg/100 ml
Cholesterol	51.3	mg/100 ml
Triglycerides	45.0	mg/100 ml

	Specification	Result
Sterility	Incubation at 32° C	sterile
	Incubation at 20° C	sterile
	Mycoplasma	not detected
Virus testing	Bovine viral diarrhoea virus (BVDV)	negative
	Bovine herpes virus (BHV-1)	negative
	Para-influenza virus type 3 (PI-3)	negative
Antibody testing	Bovine viral diarrhoea virus (BVDV)	serological titer < 1:2
	Bovine herpes virus (BHV-1)	serological titer < 1:2
	Para-influenza virus type 3 (PI-3)	serological titer < 1:2

PAN Biotech GmbH – Am Gewerbepark 13 – 94501 Aidenbach – GERMANY
www.pan-biotech.com – phone +49-8543-601630 – fax +49-8543-601649

1



Performance (cell culture tested)

Cell growth (SP2/0-Ag14)	Seed	day 2	day 5	day 7	[cells per ml]
Lot no. P140118	1.00x10e3	6.28x10e3	8.90x10e5	1.13x10e6	
Control serum	1.00x10e3	5.34x10e3	8.40x10e5	1.11x10e6	

Cell growth (L929)					[cells per ml]
Lot no. P140118	1.00x10e4	1.50x10e4	8.25x10e5	1.09x10e6	
Control serum	1.00x10e4	1.75x10e4	8.35x10e5	1.10x10e6	

No. of	colonies/clones	absolute %	relative %
Plating efficiency (L929)			
Lot no. P140118	286	58	105
Control serum	257	55	100
Cloning efficiency (SP2/0-Ag14)			
Lot no. P140118	63	66	102
Control serum	62	65	100

TABLE 1:

Test	Method
pH value	Measured with pH-electrode
Osmolality	Analyzed by freezing point depression
Hemoglobin	Determined spectrophotometrically at three different wave lengths
Endotoxin	Kinetic limulus amoebocyte lysate test (LAL)
Total protein	Colorimetric test (Buret reaction)
Albumin, Globulins	Serum protein electrophoresis (SPEP)
IgG	Radial immune diffusion
Glucose	Colorimetric test (Trinder reaction)
Cholesterol	Colorimetric test (CHOD-PAP)
Triglycerides	Colorimetric test (Trinder reaction)
Sterility	The absence of bacterial or fungal contamination is verified by dual incubation with Case-Bouillon or Thioglycolat-Bouillon according to Ph. Eur. at 32 °C and 20 °C
Mycoplasma	Three different detection systems are used: DNA-binding fluorescence dye (DAPI), microscopic analysis of microbial cultures and test kits which detect mycoplasma specific enzymes
Virus testing	The following viruses and the presence of their antibodies are tested by cytopathic effect: Bovine viral diarrhoea virus (BVDV), bovine herpes virus (BHV 1) and para-influenza virus (PI-3)
Cell growth	Growth test of murine myeloma cells (SP2/0-Ag14) and murine fibroblasts (L929)
Plating efficiency	Murine fibroblasts (L929) are plated into a Petri dish, stained with Giemsa and after 14 days of incubation the fixed cell colonies are counted (= absolute plating efficiency). The results are normalized to a previously tested reference serum (= relative plating efficiency).
Cloning efficiency	Murine myeloma cells (SP2/0-Ag14) are plated on microtiter plates (one cell per well). After 7 days of incubation the developed cell colonies are counted (= absolute cloning efficiency). The results are normalized to a previously tested reference serum (= relative cloning efficiency).

Suitability
FOR RESEARCH USE ONLY!

These products are intended for research or manufacturing use only.
Not for use in animal or human clinical or diagnostic application.

Raw material is collected in regularly inspected facilities and processed by PAN Biotech in compliance with current Ph. Eur. guidelines for Bovine Sera. Processing of raw material into finished serum product is performed by employees of PAN Biotech.

Since raw serum is not pre-aged before filtration, turbidity or flocculent debris in form of precipitate may develop upon thawing or storage of the product. This occurrence does not adversely affect the performance of the serum.

Results shown in this compilation have been obtained by carefully performing standard test methods (see table 1). Since results for any specific test may vary depending on methodology, technical equipment, or test substances used, it is suggested that results for particularly important parameters be repeated by the end user of this product.

PAN Biotech has been assigned a Certificate of Suitability (Ref. No. R1-CEP 2002-167-Rev 00; renewed Nov/11/2008) by the European Directorate for the Quality of Medicines (EDQM) for production of bovine serum.

* n.a. = not available

I. Podolski Date: Feb/12/2014
Iris Podolski
Quality Assurance

PAN Biotech GmbH – Am Gewerbepark 13 – 94501 Aidenbach – GERMANY
www.pan-biotech.com – phone +49-8543-601630 – fax +49-8543-601649

2

Treated Serum

Fetal Bovine Serum , activated charcoal absorbed, EU approved	100 ml 500 ml	P30-2301 P30-2302
Fetal Bovine Serum , delipidized, EU approved	100 ml 500 ml	P30-3401 P30-3402
Fetal Bovine Serum , dialyzed, EU approved	100 ml 500 ml	P30-2101 P30-2102
Fetal Bovine Serum , gamma irradiated, US origin	100 ml 500 ml	P30-2008 P30-2009
FBS EU Professional , gamma irradiated, EU approved	100 ml 500 ml	P30-2081 P30-2085
Fetal Bovine Serum , heat inactivated, Australia origin	100 ml 500 ml	P30-1905 P30-1906
Fetal Bovine Serum , heat inactivated, US origin	100 ml 500 ml	P30-1908 P30-1909
FBS EU Professional , heat inactivated, EU approved	100 ml 500 ml	P30-1981 P30-1985
Ultra low IgG , Fetal bovine serum, EU approved	100 ml 500 ml	P30-2801 P30-2802
Tetracycline-free serum , Fetal bovine serum, EU approved	100 ml 500 ml	P30-3601 P30-3602

Activated charcoal treated serum

Fetal bovine serum is heated in a water bath with dextran and activated charcoal. The activated charcoal, together with the substances bound to it, is then removed by centrifugation and filtration.

Application

- Work involving reduced hormone content (steroids)
- Work involving reduced growth factors (prevention of cell differentiation)
- Receptor studies (e. g. estrogens)
- Minimizes lot-to-lot variations in serum

Delipidized serum

Lipids are removed from serum by affinity chromatography.

Application

- Lipid metabolism studies
- Arteriosclerosis research

Dialyzed serum

Serum is dialyzed with a 10,000 Dalton exclusion membrane against physiological saline solution (alternative DPBS) until the glucose content is below 10 mg/100 ml.

Application

- Radioactive labeling studies
- Hormone-free applications
- Tests intolerant for small molecules such as nucleotides (hypoxanthine, thymidine), amino acids (serine, alanine etc.), sugars or metabolites

Gamma irradiated serum

Serum is exposed to irradiation > 25 kGy

Application

- Biopharmaceutical production
- Virus production
- Vaccine production
- Manufacturing of diagnostic products

Heat inactivated serum

Serum is heated for 30 min to 56 °C in a water bath under repeated gentle mixing.

Application

- Measurements of lactate dehydrogenase in the culture supernatant as a marker for cell damage (serum LDH is inactivated by heat)
- Minimizes lot-to-lot variations in serum (all thermo-labile components are removed)
- Studies on vitamins and growth factors
- Enhance viral safety, since heat-labile viruses are inactivated
- Tests that do not tolerate presence of complement (complement destruction)

Ultra low IgG serum

The average IgG level in fetal bovine serum is in the range of 70 to 330 µg/ml. The IgG content in our Ultra low IgG serum is reduced by affinity chromatography (protein-G affinity column) to max. 5 µg/ml. The biological activity of serum is not affected.

Application

- Antibody production
- Monoclonal antibodies
- Radioactive labeling

Tetracycline-free serum

Fetal bovine serum is tested for absence of tetracycline using the TET-off system (luciferase).

Application

- TET-on / TET-off regulated gene expression
- Transfections
- Expression studies

Other Animal Serum

Chicken serum	100 ml 500 ml	P30-0301 P30-0302
Donkey serum	100 ml 500 ml	P30-0101 P30-0102
Goat serum	100 ml 500 ml	P30-1001 P30-1002
Hamster serum	10 ml	P30-0210
Horse serum	100 ml 500 ml	P30-0701 P30-0702
Lamb serum	100 ml 500 ml	P30-0801 P30-0802
Mouse serum	10 ml 100 ml	P30-0200 P30-0201
Pig serum	100 ml 500 ml	P30-0901 P30-0902
Rabbit serum	100 ml 500 ml	P30-1101 P30-1102
Rat serum	10 ml 100 ml	P30-01901 P30-01901E
Sheep serum	100 ml 500 ml	P30-4101 P30-4102

All serum tested for virus and mycoplasma. Other serum upon request.

Human Serum

Human serum is manufactured from human plasma by addition of calcium chloride. This results in clotting of the plasma. After removing the clot, the human serum is washed and concentrated by ultra-filtration and finally filtered through a combination of depth- and membrane-filters.

Off-the-clot serum (True human serum)

Off-the-clot serum is prepared from human whole blood collected without anti-coagulant, allowed to clot at room temperature and then centrifuged to remove the clot. We provide single donor units as well as pooled off-the-clot serum. Off-the-clot serum is filtered through depth and membrane filters before filling.

Human serum	100 ml	P30-2401
	500 ml	P30-2402
Human AB serum	100 ml	P30-2501
	500 ml	P30-2502
Human AB serum (male)	100 ml	P30-2901
	500 ml	P30-2902
Human serum off-the-clot	100 ml	P30-2701
	500 ml	P30-2702

Serum Services

PAN-Biotech offers a variety of services and test procedures for your serum. We deliver these services fast and cost efficient, using the latest up-to-date techniques.

Profit from our expertise! If you need further special testing or particular services please contact PAN-Biotech. In most cases we can find a solution.

Special processing of serum lots

Treatment	Method
Charcoal absorbed	Serum is heated in a water bath with dextran and activated charcoal. The activated charcoal, together with the substances bound to it, is then removed by centrifugation and filtration.
Delipidized	Lipids are removed from serum by affinity chromatography
Dialyzed	Serum is dialyzed with a 10,000 Dalton exclusion membrane against physiological saline solution
Heat inactivated	Serum is heated for 30 min to 56 °C in a water bath under repeated gentle mixing
IgG reduced	The IgG content in serum is reduced by affinity chromatography to max. 5 µg/ml. The biological activity of serum is not affected.
Sterile filtered	Serum passes a series of filters with decreasing pore sizes. The last filtration step is done with a 0.2 µm pore size sterile filter.

Virus testing according EMEA guidelines

The following virus tests are performed according to EMEA guideline CPMP/BWP/1793/02:

- Bluetongue and related orbi viruses
- Bovine adenovirus
- Bovine parvovirus
- Bovine respiratory syncytial virus (BRSV)
- Bovine viral diarrhoea virus (BVDV)
- Rabies virus (rabies)
- Reo virus
- Bovine polyoma virus (BPyV)

Serum testing

Test	Method
Albumin, Globulins	Serum protein electrophoresis
Bacterial count	Detection of total number of viable aerobic germs will be either done by membrane filtration or plate-flush-method or as surface method. The microorganisms are detected as colony forming units per ml (CFU/ml) on Caso agar plates.
Cell growth	Growth test of murine myeloma cells (SP2/0-Ag14) and murine fibroblasts (L929)
Cholesterol	Colorimetric test (CHOD-PAP)
Cloning efficiency	Murine myeloma cells (SP2/0-Ag14) are plated on microtiter plates (one cell per well). After 7 days of incubation the developed cell colonies are counted (= absolute cloning efficiency). The results are normalized to a previously tested reference serum (= relative cloning efficiency).
Endotoxin	Kinetic limulus amoebocyte lysate test (LAL)
Glucose	Colorimetric test (Trinder reaction)
Hemoglobin	Determined spectrophotometrically at three different wave lengths
IgG	Radial immune diffusion
Mycoplasma	Three different detection systems are used: DNA-binding fluorescence dye (DAPI), microscopic analysis of microbial cultures and test kits which detect mycoplasma specific enzymes
Osmolality	Analyzed by freezing point depression
pH value	Measured with pH-electrode
Plating efficiency	Murine fibroblasts (L929) are plated into a Petri dish. After 14 days of incubation the fixed cell colonies are stained with Giemsa and counted (= absolute plating efficiency). The results are normalized to a previously tested reference serum (= relative plating efficiency).
Sterility	The absence of bacterial or fungal contamination is verified by dual incubation with Caso-Bouillon or Thioglycolat-Bouillon according to Ph. Eur. at 32 °C and 20 °C
Tetracycline	Tested by a TET-off system of a CHO-luc cell line. Absence of tetracycline induces expression of luciferase, which is quantified using the luciferase test system from Promega.
Total protein	Colorimetric test (Biuret reaction)
Triglycerides	Colorimetric test (Trinder reaction)
Virus testing	The following viruses and the presence of their antibodies are tested by cytopathic effect: Bovine viral diarrhoea virus (BVDV), bovine herpes virus (BHV 1) and parainfluenza virus (PI-3)

Media

Introduction	37
Alpha MEM	38-39
BME with Hank's Salts	40
BME with Earle's Salts	40
CMRL-1066 Medium	41
Dulbecco's Modified Eagle Medium	42-45
DMEM / F12	46-47
Glasgow MEM (BHK21)	48
Grace's Insect Medium	49
Ham's F10 Medium	50
Ham's F12 Medium	51
Iscoe's Modified Dulbecco's Medium	52-53
IPL-41 Insect Medium	54
Joklik-MEM	55
Leibovitz's L-15 Medium	56
MC Coy's 5A Medium	57
MCDB Medium	58
Medium 199 with Earle's Salts	59
Medium 199 with Hank's Salts	60
MEM with Earle's Salts	61-62
MEM with Hank's Salts	63
RPMI 1640	64-66
Schneider's Drosophila Medium	67
TC 100 Insect Medium	68
TNM-FH Medium	69
Waymouth's MB 752/1 Medium	70
William's Medium E	71
Endopan 3	72
Endopan MV	72
Endopan PRO	73
Pantum	74
Hepatopan	74
Melanopan	74
Neuropan	75
Stempan	75
EMEM Fibroblasts	75
Amniopan	76
Amniopan S2	76
Marrowpan	77
Marrowpan S2	77

Introduction

You only want highest quality media for cell cultivation?

At PAN-Biotech, perfect raw materials combined with state-of-the-art technologies guarantee a first-class quality of our media.

Water is the most important component of liquid media, which is why water purity is of outstanding importance for the quality of media. The water we use generally has a very low endotoxin level of < 0.005 EU/ml, and therefore is of highest purity.

Our media are placed in quarantine until quality control procedures are finished. This guarantees an excellent quality of the final product.

Advantages of our cell culture media

- Raw materials used are tested according to the highest possible quality standards
- Standard filling in sterile, high-class PET bottles
- Batches of 10 litre up to 4000 litre
- Custom service of product optimisation and further development for specific applications and purposes
- CE-label according to medical product law available upon request

Other sizes and custom formulation

Almost all media available from PAN-Biotech can be filled in special containers as per customer requirement. Besides standard bottles in 100, 500, and 1000 ml, medium can be filled in cans (up to 10 L), bags (up to 500 L), or other containers with fittings according to customer specifications for special applications such as continuous feed process or production purposes.

Delivery time

Standard media:

In principle within 3 working days in Germany; otherwise we will inform you.

Special media and custom products:

Within Germany in 4 to 6 weeks after receipt of order.

Shelf life

Powder media	2 years
Liquid media without Glutamine	2 years
Liquid media with stable Glutamine	2 years
Liquid media with L-Glutamine	1 year

Liquid media with L-Glutamine can be used also after the expiry date, but have to be supplemented with new L-Glutamine in this case. Shelf life starts on date of production!

Storage

Powder media	2 – 8° C
Liquid media	2 – 8° C protected from light

Benefit from the experience and know-how of PAN-Biotech. Our state-of-the-art production facilities, with a production line specifically installed for these requirements, allow us to produce the formulations especially developed for your needs in constant high quality also for longer periods of time, and to make batch sizes adapted to your need. Our team of scientists will be pleased to advise you regarding your proprietary formulation.

For further information regarding the dependency of pH-values in media on the CO₂ concentration in the incubator please refer to our website at www.pan-biotech.com.

Alpha MEM

Description

Alpha MEM is a different formulation of MEM Eagle and contains a higher concentration of amino acids. It also has a higher concentration of lipoic acid, vitamins and pyruvate. Primarily it was developed for the cultivation of hamster kidney cells, but today it is used for a broad range of mammalian cells. Among others the alpha MEM promotes the growth and progeny of bone marrow cells in suspension culture and monolayer. A further possibility is the use as a separation medium or for the out-breeding of amniotic cells.

Liquid Media

Alpha MEM Eagle⁽¹⁾
without L-Glutamine
without Ribonucleosides
without Deoxyribonucleosides
with 2.2 g/L NaHCO₃ 500 ml P04-21050

Alpha MEM Eagle⁽¹⁾
with L-Glutamine
with Ribonucleosides
with Deoxyribonucleosides
with 2.2 g/L NaHCO₃ 500 ml P04-21500

Alpha MEM Eagle⁽¹⁾
with stab. Glutamin
with Ribonucleosides
with Deoxyribonucleosides
with 2.2 g/L NaHCO₃ 500 ml P04-21250

Special Media

Alpha MEM Eagle⁽²⁾
without L-Glutamine
with Ribonucleosides
with Deoxyribonucleosides
with 2.2 g/L NaHCO₃ 500 ml P04-21150

Alpha MEM Eagle⁽²⁾
with L-Glutamine
without Ribonucleosides
without Deoxyribonucleosides
with 2.2 g/L NaHCO₃ 500 ml P04-21060

Alpha MEM Eagle⁽²⁾
with stab. Glutamine
without Ribonucleosides
without Deoxyribonucleosides
with 2.2 g/L NaHCO₃ 500 ml P04-21350

Alpha MEM Eagle⁽²⁾
with L-Glutamine
without Glucose
with Ribonucleosides
with Deoxyribonucleosides
with 2.2 g/L NaHCO₃ 500 ml P04-21502

Alpha MEM Eagle⁽²⁾
without Glutamine
without Phenol red
without Ribonucleosides
without Deoxyribonucleosides
with 2.2 g/L NaHCO₃ 500 ml P04-21051

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

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Alpha MEM

Powder Media

Alpha MEM Eagle⁽¹⁾ 10 L P03-2410
without L-Glutamine 50 L P03-2450
with Ribonucleosides
with Deoxyribonucleosides
without NaHCO₃

Alpha MEM Eagle⁽¹⁾ 10 L P03-2510
with L-Glutamine 50 L P03-2550
with Ribonucleosides
with Deoxyribonucleosides
without NaHCO₃

Alpha MEM Eagle⁽¹⁾ 10 L P03-2310
with L-Glutamine 50 L P03-2350
without Ribonucleosides
without Deoxyribonucleosides
with 2.2 g/L NaHCO₃

Alpha MEM Eagle⁽¹⁾ 10 L P03-2610
with L-Glutamine 50 L P03-2650
with 25 mM Hepes
with Ribonucleosides
with Deoxyribonucleosides
without NaHCO₃

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

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Composition

	Components	mg/L
Inorganic Salts	Calcium chloride x 2H ₂ O	264.92
	Magnesium sulfate dried	139.52
	Potassium chloride	400.00
	Sodium chloride	6,800.00
	Sodium dihydrogen phosphate x H ₂ O	140.00
Other Components	D(+)-Glucose anhydrous	1,000.00
	Hepes	5,958.00
	Lipoic acid	0.20
	Phenol red	10.00
	Sodium pyruvate	110.00
Amino Acids	L-Alanine	25.00
	L-Arginine x HCl	126.64
	L-Asparagine x H ₂ O	50.00
	L-Aspartic acid	30.00
	L-Cysteine x HCl x H ₂ O	100.00
	L-Cystine	24.00
	L-Glutamine	292.00
	L-Glutamic acid	75.00
	Glycine	50.00
	L-Histidine x HCl x H ₂ O	42.00
	L-Isoleucine	52.40
	L-Leucine	52.40
	L-Lysine x HCl	72.47
	L-Methionine	15.00
	L-Phenylalanine	32.00
	L-Proline	40.00
	L-Serine	25.00
L-Threonine	48.00	
L-Tryptophan	10.00	
L-Tyrosine	36.20	
L-Valine	46.00	
Vitamins	L-Ascorbic acid	50.00
	D(+)-Biotin	0.10
	D-Calcium pantothenate	1.00
	Choline chloride	1.00
	Folic acid	1.00
	myo-Inositol	2.00
	Nicotinamide	1.00
	Pyridoxal x HCl	1.00
	Riboflavin	0.10
	Thiamine x HCl	1.00
	Vitamine B12	1.33
Ribonucleosides	Adenosine	10.00
	Cytidine	10.00
	Guanosine	10.00
	Uridine	10.00
Deoxyribonucleosides	2'-Deoxyadenosine x H ₂ O	10.00
	2'-Deoxycytidine x HCl	11.00
	2'-Deoxyguanosine	10.00
	2'-Deoxythymidine	10.00

BME with Hank's Salts

Description

In the fifties of the last century it was found that mammalian cells do not only need the 10 essential amino acids, but also cystine, tyrosine and glutamine. In addition to these three amino acids BME includes

Composition		
	Components	mg/L
Inorganic Salts	Calcium chloride x 2H ₂ O	185.44
	Magnesium sulfate dried	139.52
	Potassium chloride	400.00
	Potassium dihydrogen phosphate anhydrous	60.00
	Sodium chloride	8,000.00
	di-Sodium hydrogen phosphate	47.88
	Other Components	D(+)-Glucose anhydrous
Hepes		5,958.00
Phenol red		10.00
Amino Acids	L-Arginine x HCl	21.00
	L-Cystine	12.00
	L-Glutamine	292.00
	L-Histidine Base	8.00
	L-Isoleucine	26.00
	L-Leucine	26.00
	L-Lysine x HCl	36.47
	L-Methionine	7.50
	L-Phenylalanine	16.50
	L-Threonine	24.00
	L-Tryptophan	4.00
	L-Tyrosine	18.00
	L-Valine	23.50
Vitamins	D(+)-Biotin	1.00
	D-Calcium pantothenate	1.00
	Choline chloride	1.00
	Folic acid	1.00
	myo-Inositol	2.00
	Nicotinamide	1.00
	Pyridoxal x HCl	1.00
	Riboflavin	0.10
Thiamine x HCl	1.00	

When 5,958.00 mg/L HEPES is included there is only 7,500.00 mg/L sodium chloride.

Liquid Media

BME with HBSS⁽¹⁾
without L-Glutamine
with 0.35 g/L NaHCO₃ 500 ml P04-26050

BME with Earle's Salts

also eight B-vitamins. Originally BME was used for the cultivation of murine L-cells and HeLa cells. With its many variations it is used in many fields of science today. Along with the cultivation of normal mammalian cells BME is very suitable for transformed cells.

Composition		
	Components	mg/L
Inorganic Salts	Calcium chloride x 2H ₂ O	264.92
	Magnesium sulfate dried	139.52
	Potassium chloride	400.00
	Sodium chloride	6,800.00
	Sodium dihydrogen phosphate x H ₂ O	140.00
Other Components	D(+)-Glucose anhydrous	1,000.00
	Hepes	5,958.00
	Phenol red	10.00
Amino Acids	L-Arginine x HCl	21.00
	L-Cystine	12.00
	L-Glutamine	292.00
	L-Histidine Base	8.00
	L-Isoleucine	26.00
	L-Leucine	26.00
	L-Lysine x HCl	36.47
	L-Methionine	7.50
	L-Phenylalanine	16.50
	L-Threonine	24.00
	L-Tryptophan	4.00
Vitamins	D(+)-Biotin	1.00
	D-Calcium pantothenate	1.00
	Choline chloride	1.00
	Folic acid	1.00
	myo-Inositol	2.00
	Nicotinamide	1.00
	Pyridoxal x HCl	1.00
Riboflavin	0.10	
Thiamine x HCl	1.00	

When 5,958.00 mg/L HEPES is included there is only 6,300.00 mg/L sodium chloride.

Liquid Media

BME with EBSS⁽¹⁾
without L-Glutamine
with 2.2 g/L NaHCO₃ 500 ml P04-25050

Special Media

BME with EBSS⁽²⁾
with L-Glutamine
with 2.2 g/L NaHCO₃ 500 ml P04-25500

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

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CMRL-1066 Medium

Description

The CMRL is a nucleosid- and vitamin-rich medium. In the past it was developed to clone monkey-kidney cells and as long time culture medium for L-cells. It is suitable for many types of human and monkey cells and also for other mammalian cells, especially by using horse and calf serum.

Liquid Media

CMRL - 1066⁽¹⁾
without L-Glutamine
without Phenol red
with 2.2 g/L NaHCO₃ 500 ml P04-84600

Special Media

CMRL - 1066⁽²⁾
with L-Glutamine
without Phenol red
with 2.2 g/L NaHCO₃ 500 ml P04-84500

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

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Composition

	Components	mg/L	
Inorganic Salts	Calcium chloride x 2H ₂ O	264.92	
	Potassium chloride	400.00	
	Magnesium sulfate dried	139.55	
	Sodium acetate anhydrous	50.00	
	Sodium chloride	6,799.00	
	di-Sodium hydrogen phosphate x H ₂ O	139.75	
Other Components	Cholesterol	0.20	
	D(+)-Glucose anhydrous	1,000.00	
	Glutathione (red.)	10.00	
	Sodium glucuronate x H ₂ O	4.00	
Coenzyme	Tween 80	5.00	
	Cocarcboxylase x HCl	1.00	
	Coenzyme A Trilithiumsult x 2H ₂ O	2.60	
Amino Acids	NAD	7.00	
	NADP sodium salt	1.00	
	UTP	1.00	
	L-Alanine	25.00	
	L-Arginine x HCl	70.00	
	L-Aspartic acid	30.00	
	L-Cysteine x HCl x H ₂ O	260.00	
	L-Cystine	20.00	
	L-Glutamine	100.00	
	L-Glutamic acid	75.00	
Glycine	50.00		
L-Histidine x HCl x H ₂ O	20.00		
L-Hydroxyproline	10.00		
L-Isoleucine	20.00		
L-Leucine	60.00		
L-Lysine x HCl	70.00		
L-Methionine	15.00		
L-Phenylalanine	25.00		
L-Proline	40.00		
L-Serine	25.00		
L-Threonine	30.00		
L-Tryptophan	10.00		
L-Tyrosine	40.00		
L-Valine	25.00		
Vitamins	L-Ascorbic acid	50.00	
	D(+)-Biotin	0.10	
	D-Calcium pantothenate	1.00	
	Choline chloride	1.00	
	Folic acid	1.00	
	myo-Inositol	2.00	
	Nicotinamide	1.00	
	Pyridoxal x HCl	1.00	
	Riboflavin	0.10	
	Thiamine x HCl	1.00	
	Vitamine B12	1.33	
	Deoxy-ribonucleosides	2'-Deoxyadenosine x H ₂ O	10.00
		2'-Deoxycytidine x HCl	11.00
2'-Deoxyguanosine		10.00	
2'-Deoxythymidine		10.00	

Dulbecco's Modified Eagle Medium

Description

Intrinsically developed for the cultivation of murine embryonic cells, DMEM is tailor-made for the cultivation of a broad range of cells, especially if the medium is supplemented with FBS. DMEM is an Eagle medium modification with a four-fold content of amino acids and vitamins. DMEM with 1.0 g/L Glucose is the standard medium, whereas DMEM with 4.5 g/L Glucose is for cells which have a high energy demand.

Liquid Media without Glucose

DMEM without Glucose⁽¹⁾
without L-Glutamine
without Sodium pyruvate
with 3.7 g/L NaHCO₃ 500 ml P04-01548S1

DMEM without Glucose⁽¹⁾
without L-Glutamine
with Sodium pyruvate
with 3.7 g/L NaHCO₃ 500 ml P04-01549

DMEM without Glucose⁽¹⁾
without L-Glutamine
without Sodium pyruvate
without Phenol red
with 3.7 g/L NaHCO₃ 500 ml P04-01548

Special Media without Glucose

DMEM without Glucose⁽²⁾
with L-Glutamine
with Sodium pyruvate
with 3.7 g/L NaHCO₃ 500 ml P04-01551

Powder Media without Glucose

DMEM without Glucose⁽¹⁾
without L-Glutamine
without Sodium pyruvate
without Phenol red 10 L P03-0010
without NaHCO₃ 50 L P03-0050

Liquid Media with 1.0 g/L Glucose

DMEM with 1.0 g/L Glucose⁽¹⁾
without L-Glutamine
with Sodium pyruvate
with 3.7 g/L NaHCO₃ 500 ml P04-01500

DMEM with 1.0 g/L Glucose⁽¹⁾
with L-Glutamine
with Sodium pyruvate
with 3.7 g/L NaHCO₃ 500 ml P04-01550

DMEM with 1.0 g/L Glucose⁽¹⁾
with stab. Glutamine
with Sodium pyruvate
with 3.7 g/L NaHCO₃ 500 ml P04-02500

DMEM with 1.0 g/L Glucose⁽¹⁾
with L-Glutamine
with Sodium pyruvate
without Phenol red
with 3.7 g/L NaHCO₃ 500 ml P04-01515

DMEM with 1.0 g/L Glucose⁽¹⁾
with L-Glutamine
with Sodium pyruvate
with 25 mM Hepes
with 3.7 g/L NaHCO₃ 500 ml P04-05551

Powder Media with 1.0 g/L Glucose

DMEM with 1.0 g/L Glucose⁽¹⁾
with L-Glutamine
with Sodium pyruvate 10 L P03-0510
with 3.7 g/L NaHCO₃ 50 L P03-0550

DMEM with 1.0 g/L Glucose⁽¹⁾
with L-Glutamine
with Sodium pyruvate
without Phenol red 10 L P03-01510
with 3.7 g/L NaHCO₃ 50 L P03-01550

(1) usually on stock, (2) minimum order 10 L, (3) available upon request

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Dulbecco's Modified Eagle Medium

Special Media with 1.0 g/L Glucose

DMEM with 1.0 g/L Glucose⁽²⁾
without L-Glutamine
with Sodium pyruvate
without Calcium
with 3.7 g/L NaHCO₃ 500 ml P04-01501

SILAC-DMEM⁽²⁾
with 1.0 g/L Glucose
with stab. Glutamine
with Sodium pyruvate
without L-Arginin
without L-Lysin
with 3.7 g/L NaHCO₃ 500 ml P04-02501

DMEM with 1.0 g/L Glucose⁽²⁾
without L-Glutamine
without Sodium pyruvate
without Phenol red
with 3.7 g/L NaHCO₃ 500 ml P04-03556

DMEM with 1.0 g/L Glucose⁽²⁾
without L-Glutamine
with Sodium pyruvate
without Phenol red
with 3.7 g/L NaHCO₃ 500 ml P04-01159

DMEM with 1.0 g/L Glucose⁽²⁾
with stab. Glutamine
with Sodium pyruvate
without Phenol red
with 3.7 g/L NaHCO₃ 500 ml P04-02500S1

DMEM with 1.0 g/L Glucose⁽²⁾
with L-Glutamine
with Sodium pyruvate
without Phenol red
with 3.7 g/L NaHCO₃ 500 ml P04-01516

DMEM with 1.0 g/L Glucose⁽²⁾
with L-Glutamine
without Sodium pyruvate
with 3.7 g/L NaHCO₃ 500 ml P04-01555

(1) usually on stock, (2) minimum order 10 L, (3) available upon request

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Liquid Media with 4.5 g/L Glucose

DMEM with 4.5 g/L Glucose⁽¹⁾
without L-Glutamine
without Sodium pyruvate
with 3.7 g/L NaHCO₃ 500 ml P04-03500

DMEM with 4.5 g/L Glucose⁽¹⁾
without L-Glutamine
with Sodium pyruvate
with 3.7 g/L NaHCO₃ 500 ml P04-03600

DMEM with 4.5 g/L Glucose⁽¹⁾
with L-Glutamine
without Sodium pyruvate
with 3.7 g/L NaHCO₃ 500 ml P04-03550

DMEM with 4.5 g/L Glucose⁽¹⁾
with L-Glutamine
with Sodium pyruvate
with 3.7 g/L NaHCO₃ 500 ml P04-03590

DMEM with 4.5 g/L Glucose⁽¹⁾
with L-Glutamine
with Sodium pyruvate
with 1.5 g/L NaHCO₃ 500 ml P04-03596

DMEM with 4.5 g/L Glucose⁽¹⁾
with stab. Glutamine
without Sodium pyruvate
with 3.7 g/L NaHCO₃ 500 ml P04-04500

DMEM with 4.5 g/L Glucose⁽¹⁾
with stab. Glutamine
with Sodium pyruvate
with 3.7 g/L NaHCO₃ 500 ml P04-04510

DMEM with 4.5 g/L Glucose⁽¹⁾
without L-Glutamine
without Sodium pyruvate
without Phenol red
with 3.7 g/L NaHCO₃ 500 ml P04-01161

DMEM with 4.5 g/L Glucose⁽¹⁾
without Glutamine
with Sodium pyruvate
without Phenol red
with 3.7 g/L NaHCO₃ 500 ml P04-01158

DMEM with 4.5 g/L Glucose⁽¹⁾
with L-Glutamine
with Sodium pyruvate
without Phenol red
with 3.7 g/L NaHCO₃ 500 ml P04-03591

Dulbecco's Modified Eagle Medium

DMEM with 4.5 g/L Glucose⁽¹⁾
with L-Glutamine
with 25 mM Hepes
without Sodium pyruvate
with 3.7 g/L NaHCO₃ 500 ml P04-05540

DMEM with 4.5 g/L Glucose⁽¹⁾
with L-Glutamine
with 25 mM Hepes
with Sodium pyruvate
with 3.7 g/L NaHCO₃ 500 ml P04-05550

Special Media with 4.5 g/L Glucose

DMEM with 4.5 g/L Glucose⁽²⁾
with stab. L-Glutamine
with 25 mM Hepes
without Sodium pyruvate
with 3.7 g/L NaHCO₃ 500 ml P04-04550

DMEM with 4.5 g/L Glucose⁽²⁾
with L-Glutamin
without Sodium pyruvate
with 25 mM Hepes
without Phenol red
with 3.7 g/L NaHCO₃ 500 ml P04-05545

DMEM with 4.5 g/L Glucose⁽²⁾
with stab. Glutamine
with Sodium pyruvate
without Phenol red
with 3.7 g/L NaHCO₃ 500 ml P04-03588

DMEM with 4.5 g/L Glucose⁽²⁾
without L-Glutamine
with 25 mM Hepes
with Sodium pyruvate
with 3.7 g/L NaHCO₃ 500 ml P04-01597

DMEM (10 x)⁽³⁾
with 4.5 g/L Glucose
without L-Glutamine
without Sodium pyruvate
with NEAA
without NaHCO₃ 500 ml P04-03510

DMEM with 4.5 g/L Glucose⁽²⁾
without L-Glutamine
with Sodium pyruvate
without L-Arginine
with 3.7 g/L NaHCO₃ 500 ml P04-03598

DMEM with 4.5 g/L Glucose⁽²⁾
with L-Glutamine
with 25 mM Hepes
without Sodium pyruvate
with 2.2 g/L NaHCO₃ 500 ml P04-04057

DMEM with 4.5 g/L Glucose⁽²⁾
with L-Glutamine
without Sodium pyruvate
without Sodium chloride
without NaHCO₃ 500 ml P04-03560

DMEM with 5.5 g/L Glucose⁽²⁾
with L-Glutamin
without Sodium pyruvate
with 3.7 g/L NaHCO₃ 500 ml P04-03551

DMEM with 4.5 g/L Glucose⁽²⁾
with stab. Glutamine
with Sodium pyruvate
with 25 mM Hepes
without Phenol red
with 0.5 g/L NaHCO₃ 500 ml P04-01163

DMEM with 4.5 g/L Glucose⁽²⁾
with L-Glutamine
without Sodium pyruvate
without Isoleucine
with 3.7 g/L NaHCO₃ 500 ml P04-03503

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

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Dulbecco's Modified Eagle Medium

Powder Media with 4.5 g/L Glucose

DMEM with 4.5 g/L Glucose⁽¹⁾
without L-Glutamine
without Sodium pyruvate 10 L P03-6510
without NaHCO₃ 50 L P03-6550

DMEM with 4.5 g/L Glucose⁽¹⁾
with L-Glutamine
without Sodium pyruvate 10 L P03-0710
without NaHCO₃ 50 L P03-0750

DMEM with 4.5 g/L Glucose⁽¹⁾
with L-Glutamine
with Sodium pyruvate 10 L P03-0810
without NaHCO₃ 50 L P03-0850

DMEM with 4.5 g/L Glucose⁽¹⁾
with L-Glutamine
without Sodium pyruvate
with 25 mM Hepes 10 L P03-0910
without NaHCO₃ 50 L P03-0950

DMEM with 4.5 g/L Glucose⁽¹⁾
with L-Glutamine
with Sodium pyruvate
with 25 mM Hepes 10 L P03-1010
without NaHCO₃ 50 L P03-1050

Composition

	Components	mg/L
Inorganic Salts	Calcium chloride anhydrous	200.00
	Iron(III) nitrate x 9H ₂ O	0.10
	Magnesium sulfate anhydrous	97.66
	Potassium chloride	400.00
	Sodium chloride	6,400.00
	Sodium dihydrogen phosphate anhydrous	108.69
Other Components	D(+)-Glucose anhydrous	4,500.00
	Hepes	5,958.00
	Phenol red	15.00
	Sodium pyruvate	110.00
Amino Acids	L-Arginine x HCl	84.00
	L-Cystine x 2HCl	62.58
	L-Glutamine	584.00
	Glycine	30.00
	L-Histidine x HCl x H ₂ O	42.00
	L-Isoleucine	104.80
	L-Leucine	104.80
	L-Lysine x HCl	146.20
	L-Methionine	30.00
	L-Phenylalanine	66.00
	L-Serine	42.00
	L-Threonine	95.20
L-Tryptophan	16.00	
L-Tyrosine x 2Na	103.79	
L-Valine	93.60	
Vitamins	D-Calcium pantothenate	4.00
	Choline chloride	4.00
	Folic acid	4.00
	myo-Inositol	7.00
	Nicotinamide	4.00
	Pyridoxine x HCl	4.00
	Riboflavin	0.40
	Thiamine x HCl	4.00

When 5,957.50 mg/L HEPES is included there is only 5,400.00 mg/L sodium chloride.

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

PANTM
BIOTECH

DMEM/F12

Description

This medium supports the growth of almost all cell lines. For example, it is used for pancreas cells, Sertoli cells or to culture cells, which are used for human protein production. It combines the advantages of both media DMEM (high concentration of amino acids and vitamins) and Ham's F12 (higher concentration of zinc sulphate, putrescine and linoleic acid).

Composition

	Components	mg/L
Inorganic Salts	Calcium chloride x 2H ₂ O	154.45
	Iron(III)-nitrate x 9H ₂ O	0.05
	Iron(II)-sulfate x 7H ₂ O	0.42
	Potassium chloride	311.83
	Copper(II)-sulfate x 5H ₂ O	0.001
	Magnesium chloride	28.57
	Magnesium sulfate	48.85
	Sodium chloride	6,999.50
	Sodium dihydrogen phosphate	54.35
	di-Sodium hydrogen phosphate	70.98
	Zinc sulfate x 7H ₂ O	0.43
	Other Components	D(+)-Glucose anhydrous
Hypoxanthine		2.04
Linoleic acid		0.04
DL-68-Lipoic acid		0.103
Sodium pyruvate		110.00
Phenol red		8.10
Putrescin x 2HCl		0.081
Thymidine		0.36
Amino Acids	L-Alanine	4.45
	L-Arginine x HCl	147.35
	L-Asparagine x H ₂ O	7.50
	L-Aspartic acid	6.65
	L-Cystine x 2HCl	31.29
	L-Cysteine x HCl x H ₂ O	17.56
	L-Glutamine	365.00
	L-Glutamic acid	7.35
	Glycine	18.75
	L-Histidine x HCl x H ₂ O	31.48
	L-Isoleucine	54.37
	L-Leucine	58.96
	L-Lysine x HCl	91.37
	L-Methionine	17.24
	L-Phenylalanine	35.48
	L-Proline	17.27
	L-Serine	26.25
	L-Threonine	53.55
L-Tryptophan	9.02	
L-Tyrosine x 2Na x 2H ₂ O	55.81	
L-Valine	53.00	
Vitamins	D-(+)-Biotine	0.004
	D-Calcium pantothenate	2.12
	Cholin chloride	8.98
	Folic acid	2.66
	myo-Inositol	12.51
	Nicotinamide	2.02
	Pyridoxine x HCl	2.03
	Riboflavin	0.22
	Thiamine x HCl	2.17
	Vitamine B12	0.68

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

PANTM
BIOTECH

Liquid Media

DMEM/F12 (1:1) ⁽¹⁾ without L-Glutamine with 1.2 g/L NaHCO ₃	500 ml	P04-41450
DMEM/F12 (1:1) ⁽¹⁾ with L-Glutamine with 1.2 g/L NaHCO ₃	500 ml	P04-41500
DMEM/F12 (1:1) ⁽¹⁾ with stab. Glutamine with 1.2 g/L NaHCO ₃	500 ml	P04-41150
DMEM/F12 (1:1) ⁽¹⁾ without L-Glutamine with 15 mM Hepes with 1.2 g/L NaHCO ₃	500 ml	P04-41550
DMEM/F12 (1:1) ⁽¹⁾ with L-Glutamine with 15 mM Hepes with 1.2 g/L NaHCO ₃	500 ml	P04-41250

Special Media

DMEM/F12 (1:1) ⁽²⁾ without L-Glutamine without Glucose with 1.2 g/L NaHCO ₃	500 ml	P04-41151
DMEM/F12 (1:1) ⁽²⁾ with L-Glutamine with 25 mM Hepes with 1.2 g/L NaHCO ₃	500 ml	P04-41252
DMEM/F12 (1:1) ⁽²⁾ with L-Glutamine without Phenol red with 1.2 g/L NaHCO ₃	500 ml	P04-41650
DMEM/F12 (1:1) ⁽²⁾ with stab. Glutamine with 15 mM Hepes without Calcium chloride with 1.2 g/L NaHCO ₃	500 ml	P04-41251

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

PANTM
BIOTECH

DMEM/F12

Powder Media

DMEM/F12 (1:1) ⁽¹⁾ without L-Glutamine without NaHCO ₃	10 L 50 L	P03-6010 P03-6050
DMEM/F12 (1:1) ⁽¹⁾ with L-Glutamine without NaHCO ₃	10 L 50 L	P03-1110 P03-1150
DMEM/F12 (1:1) ⁽¹⁾ with L-Glutamine with 15 mM Hepes without NaHCO ₃	10 L 50 L	P03-6110 P03-6150
DMEM/F12 (1:1) ⁽¹⁾ with L-Glutamine with 25 mM Hepes without NaHCO ₃	10 L 50 L	P03-1210 P03-1250

Glasgow MEM (BHK 21)

Description

The GMEM was developed as a modification of BME to culture primary baby hamster kidney cells. This version has twice the concentration of vitamins and amino acids.

Liquid Media

Glasgow-MEM (BHK 21)⁽¹⁾
without L-Glutamine
without Tryptose phosphate
with 2.75 g/L NaHCO₃ 500 ml P04-97500

Glasgow-MEM (BHK 21)⁽¹⁾
with L-Glutamine
with Tryptose phosphate
with 2.75 g/L NaHCO₃ 500 ml P04-96500

Special Media

Glasgow-MEM (BHK 21)⁽²⁾
without L-Glutamine
with Tryptose phosphate
with 2.75 g/L NaHCO₃ 500 ml P04-98500

Powder Media

Glasgow-MEM (BHK 21)⁽¹⁾
without L-Glutamine
without Tryptose phosphate
without NaHCO₃ 10 L P03-3110
50 L P03-3150

Glasgow-MEM (BHK 21)⁽¹⁾
with L-Glutamine
with Tryptose phosphate
without NaHCO₃ 10 L P03-6910
50 L P03-6950

Glasgow-MEM (BHK 21)⁽¹⁾
with L-Glutamine
without Tryptose phosphate
without NaHCO₃ 10 L P03-6810
50 L P03-6850

Composition

	Components	w/o Tryptose Phosph- ate mg/L	with Tryptose Phosph- ate mg/L
Inor- ganic Salts	Calcium chloride x 2H ₂ O	264.92	238.43
	Iron(III) nitrate x 9H ₂ O	0.10	0.09
	Magnesium sulfate dried	139.57	125.64
	Potassium chloride	400.00	360.00
	Sodium chloride	6,400.00	6,260.00
	di-Sodium hydrogen phosphate	0.00	250.00
Other Com- po- nents	Sodium dihydrogen phosphate x H ₂ O	124.00	111.60
	D(+)-Glucose anhydrous	4,500.00	4,250.00
	Phenol red	15.00	13.50
	Pepton from Casein	0.00	1,000.00
Ami- no Acids	Pepton from meat	0.00	500.00
	Yeast extract	0.00	500.00
	L-Arginine x HCl	42.00	37.80
	L-Cystine	24.00	21.60
	L-Glutamine	292.00	262.80
	L-Histidine x HCl x H ₂ O	21.00	18.90
	L-Isoleucine	52.40	47.16
	L-Leucine	52.40	47.16
	L-Lysine x HCl	73.10	65.79
	L-Methionine	15.00	13.50
	L-Phenylalanine	33.00	29.70
	L-Threonine	47.60	42.84
	L-Tryptophan	8.00	7.20
Vita- mins	L-Tyrosine	36.20	32.52
	L-Valine	46.80	42.12
	D-Calcium pantothenate	2.00	1.80
	Choline chloride	2.00	1.80
	Folic acid	2.00	1.80
	myo-Inositol	3.60	3.24
	Nicotinamide	2.00	1.80
	Pyridoxal x HCl	2.00	1.80
Riboflavin	0.20	0.18	
Thiamine x HCl	2.00	1.80	

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

Grace's Insect Medium

Description

The Grace's Insect Medium was originally developed to culture insect cells including SF9 and SF21 cells. Moreover it supports a broad range of lepidopteran cells.

Special Media

Grace's Insect Medium⁽²⁾
without L-Glutamine
with 0.35 g/L NaHCO₃ 500 ml P04-81500

Grace's Insect Medium⁽²⁾
with L-Glutamine
with 0.35 g/L NaHCO₃ 500 ml P04-82500

Powder Media

Grace's Insect Medium⁽¹⁾
without L-Glutamine 10 L P03-9010
without NaHCO₃ 50 L P03-9050

Grace's Insect Medium⁽¹⁾
with L-Glutamine 10 L P03-9110
without NaHCO₃ 50 L P03-9150

Composition

	Components	mg/L
Inorganic Salts	Calcium chloride x 2H ₂ O	1,324.6
	Potassium chloride	2,240.00
	Magnesium chloride x 6H ₂ O	2,278.86
	Magnesium sulfate dried	1,939.81
	di-Sodium hydrogen phosphate	876.92
Other Compo- nents	DL-Malic acid	670.00
	Succinic acid	60.00
	Fructose	400.00
	Fumaric acid	55.00
	D(+)-Glucose anhydrous	700.00
	α-Ketoglutaric acid sodium salt	425.66
	D-Sucrose	26,680.00
Amino Acids	β-Alanine	200.00
	L-Alanine	200.00
	L-Arginine x HCl	700.00
	L-Asparagine x H ₂ O	350.00
	L-Aspartic acid	350.00
	L-Cystine	19.18
	L-Glutamine	600.00
	L-Glutamic acid	600.00
	Glycine	650.00
	L-Histidine Base	2,500.00
	L-Isoleucine	50.00
	L-Leucine	75.00
	L-Lysine x HCl	625.00
	L-Methionine	50.00
	L-Phenylalanine	150.00
L-Proline	350.00	
L-Serine	550.00	
L-Threonine	175.00	
L-Tryptophan	100.00	
L-Tyrosine	50.00	
L-Valine	100.00	
Vitamins	p-Aminobenzoic acid	0.02
	D(+)-Biotin	0.01
	D-Ca-Pantothenate	0.02
	Choline chloride	0.20
	Folic acid	0.02
	myo-Inositol	0.02
	Niacin	0.02
	Pyridoxine x HCl	0.02
	Riboflavin	0.02
	Thiamine x HCl	0.02

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

Ham's F10 Medium

Description

Ham's F10 is an alternative to Ham's F12 and it was used primarily to culture CHO-cells. Today, Ham's F10 can be used with or without FBS for many different cell cultures. It is used for example for primary cells of rat and chicken, but also for human diploid cells.

Liquid Media

Ham's F10 Medium⁽¹⁾
with L-Glutamine
with 1.2 g/L NaHCO₃ 500 ml P04-12500

Special Media

Ham's F10 Medium⁽²⁾
without L-Glutamine
with 1.2 g/L NaHCO₃ 500 ml P04-12050

Ham's F10 Medium⁽²⁾
with stab. Glutamine
with 1.2 g/L NaHCO₃ 500 ml P04-13500

Ham's F10 Medium⁽²⁾
with L-Glutamine
with 25 mM Hepes
with 1.2 g/L NaHCO₃ 500 ml P04-13050

Ham's F10 Medium⁽²⁾
without L-Glutamine
without Phenol red
with 1.2 g/L NaHCO₃ 500 ml P04-12049

Powder Media

Ham's F-10 Medium⁽¹⁾
without L-Glutamine 10 L P03-5010
without NaHCO₃ 50 L P03-5050

Ham's F-10 Medium⁽¹⁾
with L-Glutamine 10 L P03-3910
without NaHCO₃ 50 L P03-3950

Ham's F-10 Medium⁽¹⁾
with L-Glutamine 10 L P03-4010
with 25 mM Hepes
without NaHCO₃ 50 L P03-4050

Composition

	Components	mg/L
Inorganic Salts	Calcium chloride x 2H ₂ O	44.09
	Copper(II) sulfate x 5H ₂ O	0.003
	Iron(II) sulfate x 7H ₂ O	0.834
	Magnesium sulfate dried	106.06
	Potassium chloride	285.00
	Potassium dihydrogen phosphate	83.00
	Sodium chloride	7400.00
	di-Sodium hydrogen phosphate	153.70
	Zinc sulfate x 7H ₂ O	0.029
	Other Components	D(+)-Glucose anhydrous
Hypoxanthine		4.08
DL- α -Lipoic acid		0.21
Hepes		5958.00
Phenol red		1.20
Sodium pyruvate		110.00
2'- Deoxythymidine		0.73
Amino Acids	L-Alanine	8.91
	L-Arginine x HCl	211.00
	L-Asparagine x H ₂ O	15.00
	L-Aspartic acid	13.30
	L-Cysteine x HCl x H ₂ O	35.12
	L-Glutamine	146.20
	L-Glutamic acid	14.70
	Glycine	7.51
	L-Histidine x HCl x H ₂ O	21.00
	L-Isoleucine	2.60
	L-Leucine	13.10
	L-Lysine x HCl	29.30
	L-Methionine	4.48
	L-Phenylalanine	4.96
L-Proline	11.50	
L-Serine	10.50	
L-Threonine	3.57	
L-Tryptophan	0.60	
L-Tyrosine	1.81	
L-Valine	3.50	
Vitamins	D(+)-Biotin	0.024
	D-Calcium pantothenate	0.715
	Choline chloride	0.698
	Folic acid	1.32
	myo-Inositol	0.541
	Nicotinamide	0.615
	Pyridoxine x HCl	0.21
	Riboflavin	0.376
	Thiamine x HCl	1.01
	Vitamin B12	1.36

When 5,958.00 mg/L HEPES is included there is only 6,900.00 mg/L sodium chloride.

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

PANTM
BIOTECH

Ham's F12 Medium

Description

In the past Ham's F12 was the first choice for a serum-free cultivation of CHO-cells and is now substituted through better serum-free systems like our Panserin C6000, which is protein-free in addition. However, Ham's F12 is an appropriate medium for mammalian cells when it is supplemented with FBS. It contains a high concentration of vitamins, amino acids and trace elements. The content of zinc sulphate is increased and it contains putrescine and linoleic acid.

Liquid Media

Ham's F12 Medium⁽¹⁾
without L-Glutamine
with 1.176 g/L NaHCO₃ 500 ml P04-14550

Ham's F12 Medium⁽¹⁾
with L-Glutamine
with 1.176 g/L NaHCO₃ 500 ml P04-14500

Ham's F12 Medium⁽¹⁾
with stab. Glutamine
with 1.176 g/L NaHCO₃ 500 ml P04-15500

Special Media

Ham's F12 Medium⁽²⁾
with L-Glutamine
without Phenol red
with 25 mM Hepes
with 1.176 g/L NaHCO₃ 500 ml P04-14501

Ham's F12 Medium⁽²⁾
without L-Glutamine
without Phenol red
with 1.176 g/L NaHCO₃ 500 ml P04-14559

Ham's F12K Medium⁽²⁾
with L-Glutamine
with 2.5 g/L NaHCO₃ 500 ml P04-15600

Powder Media

Ham's F12 Medium⁽¹⁾
with L-Glutamine 10 L P03-4110
without NaHCO₃ 50 L P03-4150

Composition

	Components	mg/L	
Inorganic Salts	Calcium chloride anhydrous	33.30	
	Copper(II) sulfate x 5H ₂ O	0.003	
	Iron(II) sulfate x 7H ₂ O	0.834	
	Magnesium chloride x 6H ₂ O	122.00	
	Potassium chloride	223.65	
	Sodium chloride	7599.9	
	di-Sodium hydrogen phosphate anhydrous	142.04	
	Zinc sulfate x 7H ₂ O	0.86	
	Other Components	D(+)-Glucose anhydrous	1801.60
		Hepes	5958.00
Hypoxanthine		4.08	
Linoleic acid		0.084	
DL-Lipoic acid		0.21	
Phenol red		1.20	
Putrescine x 2HCl		0.16	
Sodium pyruvate		110.00	
Thymidine		0.73	
Amino Acids		L-Alanine	8.91
	L-Arginine x HCl	210.70	
	L-Asparagine x H ₂ O	15.01	
	L-Aspartic acid	13.31	
	L-Cysteine x HCl x H ₂ O	35.12	
	L-Glutamine	146.20	
	L-Glutamic acid	14.71	
	Glycine	7.51	
	L-Histidine x HCl x H ₂ O	20.96	
	L-Isoleucine	3.94	
	L-Leucine	13.12	
	L-Lysine x HCl	36.54	
	L-Methionine	4.48	
	L-Phenylalanine	4.96	
L-Proline	34.53		
L-Serine	10.51		
L-Threonine	11.91		
L-Tryptophan	2.04		
L-Tyrosine	5.44		
L-Valine	11.71		
Vitamins	D(+)-Biotin	0.007	
	D-Calcium pantothenate	0.24	
	Choline chloride	13.96	
	Folic acid	1.32	
	myo-Inositol	18.00	
	Nicotinamide	0.037	
	Pyridoxine x HCl	0.062	
	Riboflavin	0.038	
	Thiamine x HCl	0.34	
	Vitamin B12	1.36	

When 5,958.00 mg/L HEPES is included there is only 7,099.00 mg/L sodium chloride.

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

PANTM
BIOTECH

Iscove's Modified Dulbecco's Medium

Description

The IMDM is a modified DMEM, with a higher content of vitamins, selenium and amino acids. As it is supplemented with albumin, transferrin and soy lipids it can be excellently applied for culturing lymphocytes, marrow cells or hybridoma cells. Note: for hybridomas there is a better and highly efficient protein-free medium available: our Panserin H4000.

Liquid Media

IMDM⁽¹⁾
without L-Glutamine
with 3.024 g/L NaHCO₃ 500 ml P04-20250

IMDM⁽¹⁾
with L-Glutamine
with 3.024 NaHCO₃ 500 ml P04-20350

IMDM⁽¹⁾
without L-Glutamine
with 25 mM Hepes
with 3.024 g/L NaHCO₃ 500 ml P04-20050

IMDM⁽¹⁾
with L-Glutamine
with 25 mM Hepes
with 3.024 g/L NaHCO₃ 500 ml P04-20150

Composition

	Components	mg/L
Inorganic Salts	Calcium chloride anhydrous	165.00
	Potassium chloride	330.00
	Potassium nitrate	0.076
	Magnesium sulfate anhydrous	97.66
	Sodium chloride	5,005.00
	Sodium dihydrogen phosphate x H ₂ O	125.00
	Sodium selenite x 5H ₂ O	0.01
Other Components	D(+)-Glucose anhydrous	4500.00
	Hepes	5958.00
	Sodium pyruvate	110.00
	Phenol red	15.00
Amino Acids	L-Alanine	25.00
	L-Arginine x HCl	84.00
	L-Asparagine x H ₂ O	28.40
	L-Aspartic acid	30.00
	L-Cystine x 2HCl	91.24
	L-Glutamine	584.00
	L-Glutamic acid	75.00
	Glycine	30.00
	L-Histidine x HCl x H ₂ O	42.00
	L-Isoleucine	105.00
	L-Leucine	105.00
	L-Lysine x HCl	146.00
	L-Methionine	30.00
	L-Phenylalanine	66.00
	L-Proline	40.00
	L-Serine	42.00
	L-Threonine	95.00
L-Tryptophan	16.00	
L-Tyrosine x 2Na x 2H ₂ O	104.2	
L-Valine	94.00	
Vitamins	D(+)-Biotin	0.0130
	D-Calcium pantothenate	4.00
	Choline chloride	4.00
	Folic acid	4.00
	myo-Inositol	7.20
	Nicotinamide	4.00
	Pyridoxine x HCl	4.00
	Riboflavin	0.40
	Thiamine x HCl	4.00
	Vitamin B12	0.013

When 5,958.00 mg/L HEPES is included there is only 4,505.00 mg/L sodium chloride.

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

PANTM
BIOTECH

Iscove's Modified Dulbecco's Medium

Special Media

IMDM⁽²⁾
without L-Glutamine
with 1.0 g/L Glucose
with 3.024 g/L NaHCO₃ 500 ml P04-20259

IMDM⁽²⁾
with stab. Glutamine
with 25 mM Hepes
without Phenol red
315 mOsm
with 3.024 g/L NaHCO₃ 500 ml P04-20451S1

IMDM⁽²⁾
with L-Glutamine
with 25 mM Hepes
320 mOsm
with 3.024 g/L NaHCO₃ 500 ml P04-20150S2

IMDM⁽²⁾
with L-Glutamine
with 1.5 g/L NaHCO₃ 500 ml P04-20351

IMDM⁽²⁾
with stab. Glutamine
with 25 mM Hepes
with 3.024 g/L NaHCO₃ 500 ml P04-20450

IMDM⁽²⁾
with stab. Glutamine
with 25 mM Hepes
without Phenol red
with 3.024 g/L NaHCO₃ 500 ml P04-20451

Powder Media

IMDM⁽¹⁾
without L-Glutamine 10 L P03-5210
without NaHCO₃ 50 L P03-5250

IMDM⁽¹⁾
with L-Glutamine 10 L P03-1310
without NaHCO₃ 50 L P03-1350

IMDM⁽¹⁾
with L-Glutamine
with 25 mM Hepes 10 L P03-1410
without NaHCO₃ 50 L P03-1450

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

PANTM
BIOTECH

IPL-41 Insect Medium

Composition

	Components	mg/L
Inorganic Salts	Ammonium heptamolybdate x 4H ₂ O	0.04
	Calcium chloride x 2H ₂ O	662.31
	Cobalt(II) chloride x 6H ₂ O	0.05
	Copper chloride x 2H ₂ O	0.20
	Iron(II) sulfate x 7H ₂ O	0.55
	Magnesium sulfate dried	1311.40
	Manganese chloride x 4H ₂ O	0.02
	Potassium chloride	1200.00
	Sodium chloride	2850.00
	Sodium dihydrogen phosphate x H ₂ O	1160.00
Other Components	Zinc chloride	0.04
	Fumaric acid	4.40
	D(+)-Glucose anhydrous	2500.00
	α-Ketoglutaric acid sodium salt	34.05
	DL-Malic acid	53.60
	D-Maltose x H ₂ O	1052.58
	Succinic acid	4.80
Amino Acids	Sucrose	1650.00
	β-Alanine	300.00
	L-Arginine x HCl	800.00
	L-Aspartic acid	1300.00
	L-Asparagine x H ₂ O	1477.14
	L-Cystine	100.00
	L-Glutamine	1000.00
	L-Glutamic acid	1500.00
	Glycine	200.00
	L-Histidine Base	200.00
	L-Hydroxyproline	800.00
	L-Isoleucine	750.00
	L-Leucine	250.00
	L-Lysine x HCl	700.00
	L-Methionine	1000.00
	L-Phenylalanine	1000.00
	L-Proline	500.00
	L-Serine	200.00
	L-Threonine	200.00
	L-Tryptophan	100.00
L-Tyrosine	250.02	
L-Valine	500.00	
Vitamins	p-Aminobenzoic acid	0.32
	D(+)-Biotin	0.16
	D-Calcium pantothenate	0.008
	Choline chloride	20.00
	Folic acid	0.08
	myo-Inositol	0.40
	Nicotinic acid	0.16
	Nicotinamide	0.16
	Pyridoxine x HCl	0.40
	Riboflavin	0.08
	Thiamine x HCl	0.08
	Vitamine B12	0.24

Description

IPL-41 is primarily used for the growth and maintenance of lepidopteran cells and for the propagation of viruses in these cells lines. The medium is also used for long time culture of baculo-virus infected spodotera cells.

Special Media

IPL-41 Insect Medium⁽²⁾
with L-Glutamine
with 0.35 g/L NaHCO₃ 500 ml P04-85600

Powder Media

IPL-41 Insect Medium⁽¹⁾
without L-Glutamine 10 L P03-9210
without NaHCO₃ 50 L P03-9250

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

PANTM
BIOTECH

Joklik-MEM

Description

Joklik's MEM is a modification of MEM for suspension cultures. Due to the absence of calcium chloride in this formulation the attachment of cells is reduced.

Composition

	Components	mg/L
Inorganic Salts	Magnesium chloride x 6H ₂ O	200.00
	Potassium chloride	400.00
	Sodium chloride	6,500.00
	Sodium dihydrogen phosphate x H ₂ O	1,327.00
Other Components	D(+)-Glucose anhydrous	2,000.00
	Phenol red	10.00
Amino Acids	L-Arginine x HCl	126.00
	L-Cystine	24.00
	L-Glutamine	294.00
	L-Histidine Base	31.00
	L-Isoleucine	52.00
	L-Leucine	52.00
	L-Lysine x H ₂ O	65.00
	L-Methionine	15.00
	L-Phenylalanine	32.00
	L-Threonine	48.00
	L-Tryptophan	10.00
L-Tyrosine	32.60	
L-Valine	46.00	
Vitamins	D-Calcium pantothenate	1.00
	Choline chloride	1.00
	Folic acid	1.00
	myo-Inositol	2.00
	Nicotinamide	1.00
	Pyridoxal x HCl	1.00
	Riboflavin	0.10
	Thiamine x HCl	1.00

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

PANTM
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Liquid Media

Joklik - MEM⁽¹⁾
Hepes Medium
with L-Glutamine
with 3.6 g/L Hepes 500 ml P04-21300

Special Media

Joklik - MEM⁽²⁾
modified for spinner culture
with EBSS (modified)
without L-Glutamine
without Antibiotica
without Calciumchloride
with 2.0 g/L NaHCO₃ 500 ml P04-21200

Powder Media

Joklik - MEM⁽¹⁾
modified for spinner culture
with EBSS (modified)
without L-Glutamine
without Antibiotica
without Calciumchloride 10 L P03-02010P
without NaHCO₃ 50 L P03-02050P

Leibovitz's L-15 Medium

Description

L-15 contains no sodium hydrogen carbonate and no bicarbonate, because it is buffered already by a high concentration of amino acids. The L-15 medium supports the growth of established cells like Hep-2, but also human nerve cells and primary tissue explants. With 10 % tryptose phosphate broth it is also ideally suited for the cultivation of insect cell lines.

Composition

	Components	mg/L
Inorganic Salts	Calcium chloride x 2H ₂ O	185.44
	Magnesium chloride x 6H ₂ O	200.00
	Magnesium sulfate dried	139.53
	Potassium chloride	400.00
	Potassium dihydrogen phosphate	60.00
	Sodium chloride	8,000.00
Other Components	di-Sodium hydrogen phosphate	190.00
	D(+)-Galactose anhydrous	900.00
	Hepes	5,958.00
	Phenol red	10.00
Amino Acids	Sodium pyruvate	550.00
	L-Alanine	225.00
	L-Arginine Base	500.00
	L-Asparagine x H ₂ O	250.00
	L-Cysteine	120.00
	L-Glutamine	300.00
	Glycine	200.00
	L-Histidine Base	250.00
	L-Isoleucine	250.00
	L-Leucine	125.00
	L-Lysine x HCl	93.75
	L-Methionine	75.00
	L-Phenylalanine	125.00
	L-Serine	200.00
	L-Threonine	300.00
	L-Tryptophan	20.00
L-Tyrosine	300.00	
L-Valine	100.00	
Vitamins	D-Calcium pantothenate	1.00
	Choline chloride	1.00
	Folic acid	1.00
	myo-Inositol	2.00
	Nicotinamide	1.00
	Pyridoxine x HCl	1.00
	Riboflavin-5'-phosphate sodium salt x 2H ₂ O	0.1075
	Thiamine monophosphate chloride x2 H ₂ O	1.00

When 5,958.00 mg/L HEPES is included there is only 7,500.00 mg/L sodium chloride.

Liquid Media

Leibovitz's L-15 Medium⁽¹⁾
without L-Glutamine
without NaHCO₃ 500 ml P04-27055

Leibovitz's L-15 Medium⁽¹⁾
with L-Glutamine
without NaHCO₃ 500 ml P04-27500

Special Media

Leibovitz's L-15 Medium⁽²⁾
with stab. Glutamine
without NaHCO₃ 500 ml P04-27050

Leibovitz's L-15 Medium⁽²⁾
without L-Glutamine
without Phenol red
without NaHCO₃ 500 ml P04-27054

Powder Media

Leibovitz's L-15 Medium⁽¹⁾
with L-Glutamine 10 L P03-1510
without NaHCO₃ 50 L P03-1550

Leibovitz's L-15 Medium⁽¹⁾
with L-Glutamine 10 L P03-1610
without NaHCO₃ 50 L P03-1650

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

PANTM
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Mc Coy's 5A Medium

Description

Mc Coy's 5A Medium is a complete medium with all amino acids and vitamins. It is used for growing primary cultures. This group contains marrow cells, gingival cells, adrenal cells, spleen cells, lung cells, rat embryos and other cell types.

Liquid Media

Mc Coy's 5A Medium (modified)⁽¹⁾
with L-Glutamine
with 2.2 g/L NaHCO₃ 500 ml P04-05500

Mc Coy's 5A Medium (modified)⁽¹⁾
with stab. Glutamine
with 2.2 g/L NaHCO₃ 500 ml P04-06500

Special Media

Mc Coy's 5A Medium (modified)⁽²⁾
with L-Glutamine
with 25 mM Hepes
with 2.2 g/L NaHCO₃ 500 ml P04-05050

Mc Coy's 5A Medium⁽²⁾
without L-Glutamine
without Phenol red
with 2.2 g/L NaHCO₃ 500 ml P04-05610

Powder Media

McCoy's 5A Medium (modified)⁽¹⁾
with L-Glutamine 10 L P03-1710
without NaHCO₃ 50 L P03-1750

McCoy's 5A Medium (modified)⁽¹⁾
with L-Glutamine 10 L P03-1810
without NaHCO₃ 50 L P03-1850

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

PANTM
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Composition		
	Components	mg/L
Inorganic Salts	Calcium chloride x 2H ₂ O	132.46
	Magnesium sulfate dried	139.53
	Potassium chloride	400.00
	Sodium chloride	6,460.00
	Sodium dihydrogen phosphate x H ₂ O	580.00
Other Components	D(+)-Glucose anhydrous	3,000.00
	Glutathione (red.)	0.50
	Hepes	5,958.00
	Bacto - Peptone	600.00
Amino Acids	Phenol red	10.00
	L-Alanine	13.36
	L-Arginine x HCl	42.10
	L-Asparagine x H ₂ O	45.00
	L-Aspartic acid	19.97
	L-Cysteine	24.24
	L-Glutamine	219.20
	L-Glutamic acid	22.10
	Glycine	7.50
	L-Histidine x HCl x H ₂ O	20.76
	L-Hydroxyproline	19.70
	L-Isoleucine	39.36
	L-Leucine	39.36
	L-Lysine x HCl	36.50
	L-Methionine	14.90
	L-Phenylalanine	16.50
L-Proline	17.30	
L-Serine	26.30	
L-Threonine	17.90	
L-Tryptophan	3.10	
L-Tyrosine	18.10	
L-Valine	17.60	
Vitamins	p-Aminobenzoic acid	1.00
	Ascorbic acid	0.50
	D(+)-Biotin	0.20
	D-Calcium pantothenate	0.20
	Choline chloride	5.00
	Folic acid	10.00
	myo-Inositol	36.00
	Nicotinamide	0.50
	Nicotinic acid	0.50
	Pyridoxal x HCl	0.50
	Pyridoxine x HCl	0.50
	Riboflavin	0.20
	Thiamine x HCl	0.20
Vitamin B12	2.00	

When 5,958.00 mg/L HEPES is included there is only 5,960.00 mg/L sodium chloride.

MCDB 131 Medium

Composition		
	Components	mg/L
Inorganic Salts	Ammonium Metavandate	0.0006
	Calcium Chloride x 2H ₂ O	235.05
	Copper(II) Sulfate x 5H ₂ O	0.0012
	Iron (III) sulfate x 7H ₂ O	0.283
	Magnesiumsulfate dried	1565.20
	Manganese Sulfate x H ₂ O	0.0002
	Ammonium Molybdate x 4H ₂ O	0.0037
	Nickel Chloride x 6H ₂ O	0.0007
	Potassium Chloride	298.00
	Sodium Chloride	6,430.00
	Sodium Metasilicate x 5H ₂ O	2.09
	Di-Sodium hydrogen phosphate	71.00
	Sodium Selenite anhydrous	0.0039
	Zinc Sulfate x 7H ₂ O	0.0003
Other Components	Adenine	0.135
	D-Glucose	1,000.00
	DL- α -Lipoic acid	0.0021
	Phenol Red	10.00
	Putrescine x 2HCl	0.002
	Sodium pyruvate	110.00
	2'Deoxythymidine	0.024
	Amino Acids	L-Alanine
L-Arginine x HCl		63.20
L-Asparagine x H ₂ O		15.00
L-Aspartic Acid		13.30
L-Cysteine x HCl x H ₂ O		35.00
L-Glutamic Acid		4.00
L-Glutamine		1,461.00
Glycine		2.30
L-Histidine x HCl x H ₂ O		42.00
L-Isoleucine		66.00
L-Leucine		131.00
L-Lysine x HCl		182.00
L-Methionine		15.00
L-Phenylalanine		33.00
L-Proline		11.50
L-Serine		32.00
L-Threonine		12.00
L-Tryptophan		4.10
L-Tyrosine	18.10	
L-Valine	117.10	
Vitamins	D-Biotin	0.0073
	Choline Chloride	13.96
	Folic Acid	0.60
	myo-Inositol	7.20
	Niacinamide	6.10
	D-Calcium-pantothenate	12.00
	Pyridoxine x HCl	2.10
	Riboflavin	0.0038
	Thiamine x HCl	3.40
	Vitamin B12	0.0136

Description

MCDB 131 is a medium for the cultivation of human micro-vascular endothelial cells under reduced serum content. For this purpose it has be supplemented with dialyzed serum, EGF and hydrocortisone.

Liquid Media

MCDB 131⁽¹⁾
without L-Glutamine
with 1.176 g/L NaHCO₃ 500 ml P04-80057

Special Media

MCDB 131⁽²⁾
with L-Glutamine
with 1.176 g/L NaHCO₃ 500 ml P04-80053

MCDB 131⁽²⁾

without Glutamine
with 25 mM Hepes
with 1.176 g/L NaHCO₃ 500 ml P04-80054

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

PANTM
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Medium 199 with Earle's Salts

Description

The M199 was originally developed to assay the nutrient demand of embryonic chicken fibroblasts. But it works very well with cells from many different animal species. For example, it is used for vaccine production in virology. For long term cultures serum should be added.

Composition		
	Components	mg/L
Inorganic Salts	Calcium chloride x 2H ₂ O	264.92
	Iron(III) nitrate x 9H ₂ O	0.72
	Magnesium sulfate dried	139.52
	Potassium chloride	400.00
	Sodium acetate x 3H ₂ O	82.95
	Sodium chloride	6,800.00
	Sodium dihydrogen phosphate	140.00
Other Components	Adenine sulfate	10.00
	AMP	0.20
	ATP	1.00
	Cholesterol	0.20
	2'-Deoxyribose	0.50
	D(+)-Glucose anhydrous	1,000.00
	Glutathione (red,)	0.05
	Guanine x HCl	0.30
	Hepes	5,958.00
	Hypoxanthine	0.30
	Phenol red	10.00
	D-Ribose	0.50
	Thymine	0.30
Tween 80	4.90	
Uracil	0.30	
Xanthine	0.30	
Amino Acids	L-Alanine	25.00
	L-Arginine x HCl	70.00
	L-Aspartic acid	30.00
	L-Cysteine x HCl x H ₂ O	0.10
	L-Cystine	20.00
	L-Glutamine	100.00
	L-Glutamic acid	67.00
	Glycine	50.00
	L-Histidine x HCl x H ₂ O	21.88
	L-Hydroxyproline	10.00
	L-Isoleucine	20.00
	L-Leucine	60.00
	L-Lysine x HCl	70.00
	L-Methionine	15.00
	L-Phenylalanine	25.00
	L-Proline	40.00
L-Serine	25.00	
L-Threonine	30.00	
L-Tryptophan	10.00	
L-Tyrosine	40.00	
L-Valine	25.00	

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

PANTM
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Vitamins		
	p-Aminobenzoic acid	0.05
	Ascorbic acid	0.05
	D(+)-Biotin	0.01
	Calciferol	0.10
	D-Calcium pantothenate	0.01
	Choline chloride	0.50
	Folic acid	0.01
	myo-Inositol	0.05
	Menadione	0.01
	Nicotinic acid	0.025
	Nicotinamide	0.025
	Pyridoxal x HCl	0.025
	Pyridoxol x HCl	0.025
	Riboflavin	0.01
	DL- α -Tocopherol phosphate-Na2	0.01
	Thiamine x HCl	0.01
	Vitamin A acetate	0.14

When 5,958.00 mg/L HEPES is included there is only 6,300.00 mg/L sodium chloride.

Liquid Media

M199 with EBSS⁽¹⁾
without L-Glutamine
with 2.2 g/L NaHCO₃ 500 ml P04-07500

Special Media

M199 with EBSS⁽²⁾
with L-Glutamine
with 2.2 g/L NaHCO₃ 500 ml P04-07050

M199 with EBSS⁽²⁾
with stab. Glutamine
with 2.2 g/L NaHCO₃ 500 ml P04-07250

M199 with EBSS⁽²⁾
with L-Glutamine
with 25 mM Hepes
with 2.2 g/L NaHCO₃ 500 ml P04-07150

Powder Media

M199 with EBSS⁽¹⁾
with L-Glutamine 10 L P03-1910
without NaHCO₃ 50 L P03-1950

Medium 199 with Hank's Salts

Special Media

M199 with HBSS⁽²⁾
without L-Glutamine
with 0.35 g/L NaHCO₃ 500 ml P04-07753

M199 with HBSS⁽²⁾
with L-Glutamine
with 25 mM Hepes
with 0.35 g/L NaHCO₃ 500 ml P04-07450

M199 with HBSS (10X)⁽²⁾
without L-Glutamine
without NaHCO₃ 500 ml P04-07600

Powder Media

M199 with HBSS⁽¹⁾
with L-Glutamine 10 L P03-2110
without NaHCO₃ 50 L P03-2150

Composition

	Components	mg/L	
Inorganic Salts	Calcium chloride x2H ₂ O	185.45	
	Iron(III) nitrate x 9H ₂ O	0.72	
	Magnesium sulfate dried	139.68	
	Potassium chloride	400.00	
	Potassium dihydrogen phosphate	60.00	
	Sodium acetate x 3H ₂ O	83.00	
	Sodium chloride	8,000.00	
	di-Sodium hydrogen phosphate	47.68	
	Other Components	Adenine sulfate	10.00
		AMP	0.20
ATP		1.00	
Cholesterol		0.20	
2'-Deoxyribose		0.50	
D(+)-Glucose anhydrous		1,000.00	
Glutathione (red.)		0.05	
Guanine x HCl		0.30	
Hepes		5,958.00	
Hypoxanthine		0.30	
Phenol red		10.00	
D-Ribose		0.50	
Thymine		0.30	
Tween 80		4.90	
Uracil		0.30	
Xanthine	0.30		

Amino Acids	L-Alanine	25.00
	L-Arginine x HCl	70.00
	L-Aspartic acid	30.00
	L-Cysteine x HCl x H ₂ O	0.10
	L-Cystine	20.00
	L-Glutamine	100.00
	L-Glutamic acid	67.00
	Glycine	50.00
	L-Histidine x HCl x H ₂ O	21.88
	L-Hydroxyproline	10.00
	L-Isoleucine	20.00
	L-Leucine	60.00
	L-Lysine x HCl	70.00
	L-Methionine	15.00
	L-Phenylalanine	25.00
	L-Proline	40.00
	L-Serine	25.00
L-Threonine	30.00	
L-Tryptophan	10.00	
L-Tyrosine	40.00	
L-Valine	25.00	
Vitamins	p-Aminobenzoic acid	0.05
	Ascorbic acid	0.05
	D(+)-Biotin	0.01
	Calciferol	0.10
	D-Calcium pantothenate	0.01
	Choline chloride	0.50
	Folic acid	0.01
	myo-Inositol	0.05
	Menadione	0.01
	Nicotinic acid	0.025
	Nicotinamide	0.025
	Pyridoxal x HCl	0.025
	Pyridoxol x HCl	0.025
	Riboflavin	0.01
	DL-α-Tocopherol phosphate-Na ₂	0.01
Thiamine x HCl	0.01	
Vitamin A acetate	0.14	

MEM with Earle's Salts

Description

MEM is an advancement of the BME and the base medium of many further modifications. Because BME did not fulfil all requirements for some mammalian and HeLa cells, a better variation had to be developed. Today, MEM is one of the most used synthetic media and shows its versatility by supplementing with amino acids including Hank's or Earle's salts. Even the addition of only small amounts of FBS results in a positive effect on cell growth.

Composition

	Components	mg/L
Inorganic Salts	Calcium chloride x2H ₂ O	264.92
	Magnesium sulfate dried	139.53
	Potassium chloride	400.00
	Sodium chloride	6800.00
	Sodium dihydrogen phosphate x H ₂ O	140.00
	Other Components	D(+)-Glucose anhydrous
Hepes		5958.00
Phenol red		10.00
Amino Acids	L-Alanine	8.90
	L-Arginine x HCl	126.00
	L-Asparagine x H ₂ O	13.20
	L-Aspartic acid	13.30
	L-Cystine	24.00
	L-Glutamine	292.00
	L-Glutamic acid	14.70
	Glycine	7.50
	L-Histidine x HCl x H ₂ O	42.00
	L-Isoleucine	52.00
	L-Leucine	52.00
	L-Lysine x HCl	72.50
	L-Methionine	15.00
	L-Phenylalanine	32.00
L-Proline	11.50	
L-Serine	10.50	
L-Threonine	48.00	
L-Tryptophan	10.00	
L-Tyrosine	36.00	
L-Valine	46.00	
Vitamins	D-Calcium pantothenate	1.00
	Choline chloride	1.00
	Folic acid	1.00
	myo-Inositol	2.00
	Nicotinamide	1.00
	Pyridoxal x HCl	1.00
	Riboflavin	0.10
Thiamine x HCl	1.00	

When 5,958.00 mg/L HEPES is included there is only 6,300.00 mg/L sodium chloride.

Liquid Media without Glutamine

MEM Eagle with EBSS⁽¹⁾
without L-Glutamine
with 2.2 g/L NaHCO₃ 500 ml P04-08050

MEM Eagle with EBSS⁽¹⁾
without L-Glutamine
with 25 mM Hepes
with 2.2 g/L NaHCO₃ 500 ml P04-08150

Special Media without Glutamine

MEM Eagle with EBSS⁽²⁾
without L-Glutamine
without Phenol red
with 2.2 g/L NaHCO₃ 500 ml P04-00507

MEM Eagle with EBSS⁽²⁾
without L-Glutamine
with NEAA
with 2.2 g/L NaHCO₃ 500 ml P04-08509

MEM Eagle with EBSS⁽²⁾
without L-Glutamine
without NaHCO₃ 500 ml P04-09050

Powder Media without Glutamine

MEM Eagle with EBSS⁽¹⁾
without L-Glutamine 10 L P03-7410
without NaHCO₃ 50 L P03-7450

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

MEM with Earle's Salts

Liquid Media with L-Glutamine

MEM Eagle with EBSS⁽¹⁾
with L-Glutamine
with 2.2 g/L NaHCO₃ 500 ml P04-08500

MEM Eagle with EBSS⁽¹⁾
with L-Glutamine
with 1.5 g/L NaHCO₃ 500 ml P04-00509

Special Media with L-Glutamine

MEM Eagle with EBSS⁽²⁾
with L-Glutamine
without Phenol red
with 1.5 g/L NaHCO₃ 500 ml P04-00508

MEM Eagle with EBSS⁽²⁾
with L-Glutamine
with 20 mM Hepes
with 2.2 g/L NaHCO₃ 500 ml P04-08549

MEM Eagle with EBSS⁽²⁾
with L-Glutamine
with NEAA
with 2.2 g/L NaHCO₃ 500 ml P04-08510

MEM Eagle with EBSS⁽²⁾
with 2 mM Glutamine
with 1 mM Pyruvate
with NEAA
with 1.5 g/L NaHCO₃ 500 ml P04-08056

Powder Media with L-Glutamine

MEM Eagle with EBSS⁽¹⁾
with L-Glutamine
with NEAA 10 L P03-2910
without NaHCO₃ 50L P03-2950

MEM Eagle with EBSS⁽¹⁾
with L-Glutamine
with NEAA
with 25 mM Hepes 10 L P03-3010
with NaHCO₃ 50 L P03-3050

MEM Eagle with EBSS⁽¹⁾
with L-Glutamine
without NaHCO₃ 10 L P03-2710
50 L P03-2750

MEM Eagle with EBSS⁽¹⁾
with L-Glutamine
with 25 mM Hepes 10 L P03-2810
without NaHCO₃ 50 L P03-2850

Liquid Media with stab. Glutamine

MEM Eagle with EBSS⁽¹⁾
with stab. Glutamine
with 2.2 g/L NaHCO₃ 500 ml P04-09500

MEM Eagle with EBSS⁽¹⁾
with stab. Glutamine
with 25 mM Hepes
with 2.2 g/L NaHCO₃ 500 ml P04-08250

MEM with Hank's Salts

Composition

	Components	mg/L
Inorganic Salts	Calcium chloride x 2H ₂ O	185.44
	Potassium chloride	400.00
	Potassium dihydrogen phosphate anhydrous	60.00
	Magnesium sulfate dried	139.53
	Sodium chloride	8,000.00
	di-Sodium hydrogen phosphate	47.88
Other Components	D(+)-Glucose anhydrous	1,000.00
	Hepes	5,958.00
	Phenol red	10.00
Amino Acids	L-Alanine	8.90
	L-Arginine x HCl	126.00
	L-Asparagine x H ₂ O	13.20
	L-Aspartic acid	13.30
	L-Cystine	24.00
	L-Glutamine	292.00
	L-Glutamic acid	14.70
	Glycine	7.50
	L-Histidine x HCl x H ₂ O	42.00
	L-Isoleucine	52.00
	L-Leucine	52.00
	L-Lysine x HCl	72.50
	L-Methionine	15.00
	L-Phenylalanine	32.00
	L-Proline	11.50
	L-Serine	10.50
L-Threonine	48.00	
L-Tryptophan	10.00	
L-Tyrosine	36.00	
L-Valine	46.00	
Vitamins	D-Calcium pantothenate	1.00
	Cholin chloride	1.00
	Folic acid	1.00
	myo-Inositol	2.00
	Nicotinamide	1.00
	Pyridoxal x HCl	1.00
	Riboflavin	0.10
	Thiamine x HCl	1.00

When 5,958.00 mg/L HEPES is included there is only 7,500.00 mg/L sodium chloride.

Special Media

MEM Eagle with HBSS⁽²⁾
without L-Glutamine
with 0.35 g/L NaHCO₃ 500 ml P04-10050

MEM Eagle with HBSS⁽²⁾
with L-Glutamine
with 0.35 g/L NaHCO₃ 500 ml P04-10500

MEM Eagle with HBSS⁽²⁾
with L-Glutamine
with 0.60 g/L NaHCO₃ 500 ml P04-10599

Powder Media

MEM Eagle with HBSS⁽¹⁾
with L-Glutamine 10 L P03-3310
without NaHCO₃ 50 L P03-3350

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

PANTM
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(1) usually on stock, (2) minimum order 10 l, (3) available upon request

PANTM
BIOTECH

RPMI 1640

Description

The medium was developed for culture of normal and neoplastic leukocytes, but also marrow cells and hybridoma cells. Meanwhile there are better, serum-free media for hybridoma cells such our Panserin H4000. Just by supplementing RPMI 1640 with varying amounts of FBS, a very good medium for many different cell lines can be obtained.

Composition

	Components	mg/L
Inorganic Salts	Calcium nitrate x 4H ₂ O	100.00
	Potassium chloride	400.00
	Magnesium sulfate anhydrous	48.83
	Sodiumchloride	6000.00
	di-Sodium hydrogen phosphate	800.49
Other Components	D(+)-Glucose anhydrous	2000.00
	Glutathion (red.)	1.00
	Hepes	5958.00
	Phenol red	5.00
Amino Acids	L-Arginine x HCl	241.86
	L-Asparagine x H ₂ O	50.00
	L-Aspartic acid	20.00
	L-Cystine x 2HCl	65.19
	L-Glutamine	300.00
	L-Glutamic acid	20.00
	Glycine	10.00
	L-Histidine x HCl x H ₂ O	20.27
	L-Hydroxyproline	20.00
	L-Isoleucine	50.00
	L-Leucine	50.00
	L-Lysine x HCl	40.00
	L-Methionine	15.00
	L-Phenylalanine	15.00
	L-Proline	20.00
	L-Serine	30.00
	L-Threonine	20.00
L-Tryptophan	5.00	
L-Tyrosine x 2Na	28.83	
L-Valine	20.00	
Vitamins	p-Aminobenzoic acid	1.00
	D-(+)-Biotin	0.20
	D-Calcium pantothenate	0.25
	Choline chloride	3.00
	Folic acid	1.00
	myo-Inositol	35.00
	Nicotinamide	1.00
	Pyridoxine x HCl	1.00
	Riboflavin	0.20
	Thiamine x HCl	1.00
	Vitamin B12	0.005

When 5,958.00 mg/L HEPES is included there is only 5,000.00 mg/L sodium chloride.

Liquid Media without Glutamine

RPMI 1640⁽¹⁾
without L-Glutamine
with 2.0 g/L NaHCO₃ 500 ml P04-17500

RPMI 1640⁽¹⁾
without L-Glutamine
without Phenol red
with 2.0 g/L NaHCO₃ 500 ml P04-16516

RPMI 1640⁽¹⁾
without L-Glutamine
with 25 mM Hepes
with 2.0 g/L NaHCO₃ 500 ml P04-18000

Special Media without Glutamine

RPMI 1640⁽²⁾
without L-Glutamine
without Calcium
with 2.0 g/L NaHCO₃ 500 ml P04-16151

RPMI 1640⁽²⁾
without L-Glutamine
without L-Tryptophan
with 2.0 g/L NaHCO₃ 500 ml P04-17599

RPMI 1640⁽²⁾
without L-Glutamine
without Glucose
with 2.0 g/L NaHCO₃ 500 ml P04-17550

RPMI 1640⁽²⁾
without L-Glutamine
with 15 mM Hepes
without Phosphate
with 2.0 g/L NaHCO₃ 500 ml P04-21049

RPMI 1640 (10X)⁽²⁾
without L-Glutamine
without NaHCO₃ 500 ml P04-17510

RPMI 1640⁽²⁾
without L-Glutamine
with 25 mM Hepes
without NaHCO₃ 500 ml P04-17850

RPMI 1640⁽²⁾
without L-Glutamine
with 25 mM Hepes
with 2.2 g/L NaHCO₃ 500 ml P04-22500

RPMI 1640⁽²⁾
without L-Glutamine
with 20 mM Hepes
with 0.85 g/L NaHCO₃ 500 ml P04-19500

RPMI 1640

Powder Media without Glutamine

RPMI 1640⁽¹⁾
without L-Glutamine 10 L P03-7210
without NaHCO₃ 50 L P03-7250

RPMI 1640⁽¹⁾
without L-Glutamine
without Phenol red 10 L P03-7710
without NaHCO₃ 50 L P03-7750

RPMI 1640⁽¹⁾
without L-Glutamine
with 25 mM Hepes 10 L P03-4410
without NaHCO₃ 50 L P03-4450

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

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(1) usually on stock, (2) minimum order 10 l, (3) available upon request

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RPMI 1640

Liquid Media with L-Glutamine

RPMI 1640⁽¹⁾
with L-Glutamine
with 2.0 g/L NaHCO₃ 500 ml P04-16500

RPMI 1640⁽¹⁾
with L-Glutamine
without Phenol red
with 2.0 g/L NaHCO₃ 500 ml P04-16515

RPMI 1640⁽¹⁾
with 2 mM L-Glutamine
with 1 mM Sodium pyruvate
with 4.5 g/L Glucose
with 10 mM Hepes
with 1.5 g/L NaHCO₃ 500 ml P04-18047

RPMI 1640⁽¹⁾
with L-Glutamine
with 25 mM Hepes
with 2.2 g/L NaHCO₃ 500 ml P04-22100

Special Media with L-Glutamine

RPMI 1640⁽²⁾
with L-Glutamine
without Glucose
with 2.0 g/L NaHCO₃ 500 ml P04-17545

RPMI 1640⁽²⁾
with L-Glutamine
without L-Arginine
with 2.0 g/L NaHCO₃ 500 ml P04-16598

RPMI 1640⁽²⁾
with L-Glutamine
without L-Tryptophan
with 2.0 g/L NaHCO₃ 500 ml P04-17598

RPMI 1640⁽²⁾
with L-Glutamine
with 20 mM Hepes
with 0.85 g/L NaHCO₃ 500 ml P04-19550

Powder Media with L-Glutamine

RPMI 1640⁽¹⁾
with L-Glutamine 10 L P03-4310
without NaHCO₃ 50 L P03-4350

RPMI 1640⁽¹⁾
with L-Glutamine
with 25 mM Hepes 10 L P03-7310
without NaHCO₃ 50 L P03-7350

RPMI 1640⁽¹⁾
with L-Glutamine
without Phenol red 10 L P03-7610
without NaHCO₃ 50 L P03-7650

Liquid Media with stab. Glutamine

RPMI 1640⁽¹⁾
with stab. Glutamine
with 2.0 g/L NaHCO₃ 500 ml P04-18500

RPMI 1640⁽¹⁾
with stab. Glutamine
with 25 mM Hepes
with 2.2 g/L NaHCO₃ 500 ml P04-18050

Special Media with stab. Glutamine

RPMI 1640⁽²⁾
with stab. L-Glutamine
without Phenol red
with 2.0 g/L NaHCO₃ 500 ml P04-16520

RPMI 1640⁽²⁾
with stab. Glutamine
without Glucose
with 2.0 g/L NaHCO₃ 500 ml P04-17546

RPMI 1640⁽²⁾
with stab. Glutamine
without Phenol red
without Glucose
with 2.0 g/L NaHCO₃ 500 ml P04-16530

Schneider's Drosophila Medium

Description

Originally developed for the culture of Drosophila cells, this medium is also suitable for the culture of other dipteran cell lines.

Liquid Media

Schneider's Drosophila Medium⁽¹⁾
without L-Glutamine
with 0.35 g/L NaHCO₃ 500 ml P04-90500

Schneider's Drosophila Medium⁽¹⁾
with L-Glutamine
with 0.35 g/L NaHCO₃ 500 ml P04-91500

Powder Media

Schneider's Drosophila Medium⁽¹⁾
without L-Glutamine 10 L P03-9310
without NaHCO₃ 50 L P03-9350

Composition

	Components	mg/L
Inorganic Salts	Potassium chloride	1600.00
	Potassium dihydrogen phosphate	450.00
	Magnesium sulfate dried	2585.71
	Sodium chloride	2100.00
	di-Sodium hydrogen phosphate	700.00
Other Components	DL-Malic acid	600.00
	Succinic acid	60.00
	Fumaric acid	60.00
	D(+)-Glucose anhydrous	2000.00
	Yeast extract	2000.00
	α-Ketoglutaric acid sodium salt	402.66
	D(+)-Trehalose x 2H ₂ O	2210.00
Amino Acids	β-Alanine	500.00
	L-Arginine Base	600.00
	L-Asparatic acid	400.00
	L-Cysteine free base	60.00
	L-Cystine	16.60
	L-Glutamine	1800.00
	L-Glutamic acid	800.00
	Glycine	250.00
	L-Histidine Base	400.00
	L-Isoleucine	150.00
	L-Leucine	150.00
	L-Lysine x HCl	1650.00
	L-Methionine	150.00
	L-Proline	1700.00
	L-Serine	250.00
L-Threonine	350.00	
L-Tryptophan	100.00	
L-Tyrosine	500.00	
L-Valine	300.00	

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

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(1) usually on stock, (2) minimum order 10 l, (3) available upon request

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TC 100 Insect Medium

Description

The TC 100 Insect Medium is an absolutely serum-free formula (Oxford formulation) for the growth of insect cells, especially for SF9 cells and the breeding of viruses. If you would like to work with a modern protein-free insect medium, our Spodopan is the ideal choice.

Liquid Media

TC 100 Insect Medium⁽¹⁾
with L-Glutamine
with 0.35 g/L NaHCO₃ 500 ml P04-92500

Special Media

TC 100 Insect Medium⁽²⁾
without L-Glutamine
with 0.35 g/L NaHCO₃ 500 ml P04-93500

Powder Media

TC 100 Insect Medium⁽¹⁾
with L-Glutamine 10 L P03-9610
without NaHCO₃ 50 L P03-9650

Composition

	Components	mg/L
Inorganic Salts	Calcium chloride x 2H ₂ O	1298.13
	Potassium chloride	2900.00
	Magnesium chloride x 6H ₂ O	2282.59
	Magnesium sulfate dried	1781.00
	Sodium dihydrogen phosphate x H ₂ O	970.00
Other Components	D(+)-Glucose anhydrous	1000.00
	Bacto - Tryptose	2600.00
Amino Acids	L-Alanine	225.00
	L-Arginine Base	550.00
	L-Aspartic acid	350.00
	L-Asparagine x H ₂ O	391.97
	L-Cystine	20.00
	L-Glutamine	600.00
	L-Glutamic acid	600.00
	Glycine	650.00
	L-Histidine x HCl x H ₂ O	3400.00
	L-Isoleucine	50.00
	L-Leucine	75.00
	L-Lysine x HCl	630.00
	L-Methionine	50.00
	L-Phenylalanine	150.00
	L-Proline	350.00
	L-Serine	550.00
L-Threonine	180.00	
L-Tryptophan	100.00	
L-Tyrosine	55.00	
L-Valine	100.00	
Vitamins	p-Amino benzoic acid	0.02
	D-(+)-Biotin	0.01
	D-Calcium pantothenate	0.11
	Folic acid	0.02
	myo-Inositol	0.02
	Nicotinic acid	0.02
	Pyridoxine x HCl	0.02
	Riboflavin	0.02
	Thiamine x HCl	0.02
	Vitamin B12	0.01

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

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TNM-FH Medium

Description

The TNM-FH is a variation of the Grace medium. This modification has proved as a good culture medium for many lepidopteran cells.

Liquid Media

TNM-FH Medium⁽¹⁾
with L-Glutamine
with Lactalbumine-Hydrolysate
with Yeast extract
with 0.35 g/L NaHCO₃ 500 ml P04-80500

Special Media

TNM-FH Medium⁽²⁾
with L-Glutamine
with Lactalbumin-Hydrolysate
with Yeast extract
with 10 % Fetal Bovine Serum
with 0.35 g/L NaHCO₃ 500 ml P04-83500

Powder Media

TNM-FH Insect Medium⁽¹⁾
without L-Glutamine
with Lactalbumine-Hydrolysate
with Yeast extract 10 L P03-9710
without NaHCO₃ 50 L P03-9750

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

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Composition

	Components	mg/L
Inorganic Salts	Calcium chloride x 2H ₂ O	1,324.62
	Potassium chloride	2,240.00
	Magnesium chloride x 6H ₂ O	2,278.86
	Magnesium sulfate dried	1,939.80
	di-Sodium hydrogen phosphate	876.92
Other Components	DL-Malic acid	670.00
	Succinic acid	60.00
	D-Fructose	400.00
	Fumaric acid	55.00
	D(+)-Glucose anhydrous	700.00
	Yeast extract	3,333.33
	α-Ketoglutaric acid sodium salt	425.66
	Lactalbumin Hydrolysate Sucrose	3,333.33 26,680.00
Amino Acids	β-Alanine	200.00
	L-Alanine	225.00
	L-Arginine x HCl	700.00
	L-Asparagine x H ₂ O	350.00
	L-Aspartic acid	350.00
	L-Cystine	19.18
	L-Glutamine	600.00
	L-Glutamic acid	600.00
	Glycine	650.00
	L-Histidine Base	2,500.00
	L-Isoleucine	50.00
	L-Leucine	75.00
	L-Lysine x HCl	625.00
	L-Methionine	50.00
	L-Phenylalanine	150.00
	L-Proline	350.00
	L-Serine	550.00
L-Threonine	175.00	
L-Tryptophan	100.00	
L-Tyrosine	50.00	
L-Valine	100.00	
Vitamins	p-Aminobenzoic acid	0.02
	D-(+)-Biotin	0.01
	D-Ca-Pantothenate	0.02
	Cholin chloride	0.20
	Folic acid	0.02
	myo-Inositol	0.02
	Nicotinic acid	0.02
	Pyridoxol x HCl	0.02
	Riboflavin	0.02
	Thiamine x HCl	0.02

Waymouth's MB 752/1 Medium

Description

Waymouth's MB 752/1 Medium was developed for studies concerning nutrition and metabolism. It also can be used for growing strain L sub-lines, NCTC clone 929.

Special Media

Waymouth's MB 752/1 Medium⁽²⁾
with L-Glutamine
with 2.24 g/L NaHCO₃ 500 ml P04-28500

Powder Media

Waymouth's MB 752/1 Medium⁽¹⁾
with L-Glutamine 10 L P03-4510
without NaHCO₃ 50 L P03-4550

Composition

	Components	mg/L
Inorganic Salts	Calcium chloride x 2H ₂ O	120.02
	Magnesium chloride x 6H ₂ O	240.00
	Magnesium sulfate dried	130.96
	Potassium chloride	150.00
	Potassium dihydrogen phosphate	80.00
	Sodium chloride	6,000.00
	di-Sodium hydrogen phosphate anhydrous	300.00
Other Components	D(+)-Glucose anhydrous	5,000.00
	Glutathione (red.)	15.00
	Hepes	4,766.40
	Hypoxanthine	25.00
	Phenol red	10.00
Amino Acids	L-Arginine x HCl	75.00
	L-Aspartic acid	60.00
	L-Cysteine x HCl x H ₂ O	100.26
	L-Cystine	15.00
	L-Glutamine	350.00
	L-Glutamic acid	150.00
	Glycine	50.00
	L-Histidine x HCl x H ₂ O	164.10
	L-Isoleucine	25.00
	L-Leucine	50.00
	L-Lysine x HCl	240.00
	L-Methionine	50.00
	L-Phenylalanine	50.00
	L-Proline	50.00
	L-Threonine	75.00
	L-Tryptophan	40.00
L-Tyrosine	40.00	
L-Valine	65.00	
Vitamins	L-Ascorbic acid	17.50
	D(+)-Biotin	0.02
	D-Calcium pantothenate	1.00
	Choline chloride	250.00
	Folic acid	0.40
	myo-Inositol	1.00
	Nicotinamide	1.00
	Pyridoxine x HCl	1.00
	Riboflavin	1.00
	Thiamine x HCl	10.00
	Vitamin B12	0.20

When 4,766.40 mg/L HEPES is included there is only 5,500.00 mg/L sodium chloride.

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

PANTM
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William's Medium E

Description

The William's Medium E is used for long-term cultivation of adult rat liver epithelial cells.

Liquid Media

William's Medium E⁽¹⁾
without L-Glutamine
with 2.24 g/L NaHCO₃ 500 ml P04-29050

William's Medium E⁽¹⁾
with L-Glutamine
with 2.24 g/L NaHCO₃ 500 ml P04-29500

William's Medium E⁽¹⁾
with stab. Glutamine
with 2.24 g/L NaHCO₃ 500 ml P04-29150

William's Medium E⁽¹⁾
without L-Glutamine
without Phenol red
with 2.24 g/L NaHCO₃ 500 ml P04-29510

Special Media

William's Medium E⁽²⁾
without L-Glutamine
without Glucose
with 2.24 g/L NaHCO₃ 500 ml P04-29050S1

Powder Media

William's Medium E⁽¹⁾
with L-Glutamine
with 25 mM Hepes 10 L P03-4810
without NaHCO₃ 50 L P03-4850

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

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Composition

	Components	mg/L
Inorganic Salts	Calcium chloride x 2H ₂ O	264.92
	Iron(III)-nitrat x 9H ₂ O	0.0001
	Potassium chloride	400.00
	Copper(II)-sulfate x 5H ₂ O	0.0001
	Magnesium sulfate dried	139.57
	Manganese chloride x 4H ₂ O	0.0001
	Sodium chloride	6,800.00
	Sodium dihydrogen phosphate x H ₂ O	140.00
	Zinc sulfate x 7H ₂ O	0.0002
	Other Components	D(+)-Glucose anhydrous
Hepes		5,958.00
Glutathion (red.)		0.05
Methylinoleat		0.03
Sodium pyruvate		25.00
Phenol red		10.00
Amino Acids	L-Alanine	90.00
	L-Arginine free base	50.00
	L-Asparagine x H ₂ O	20.00
	L-Aspartic acid	30.00
	L-Cysteine	40.00
	L-Cystine	20.00
	L-Glutamine	292.00
	L-Glutamic acid	50.00
	Glycine	50.00
	L-Histidine Base	15.00
	L-Isoleucine	50.00
	L-Leucine	75.00
	L-Lysine x HCl	87.50
	L-Methionine	15.00
	L-Phenylalanine	25.00
	L-Proline	30.00
L-Serine	10.00	
L-Threonine	40.00	
L-Tryptophan	10.00	
L-Tyrosine	35.00	
L-Valine	50.00	
Vitamins	L-Ascorbic acid	2.00
	D(+)-Biotin	0.50
	Calciferol	0.10
	D-Calcium pantothenate	1.00
	Choline chloride	1.50
	Folic acid	1.00
	myo-Inositol	2.00
	Menadion sodium bisulfite	0.01
	Nikotinamid	1.00
	Pyridoxal x HCl	1.00
	Riboflavin	0.10
	Thiamine x HCl	1.00
	DL-α-Tocopherol phosphate-Na ₂	0.01
	Vitamin A acetate	0.10
	Vitamin B12	0.20

When 5,958.00 mg/L HEPES is included there is only 6,300.00 mg/L sodium chloride.

Endopan

Background

Endothelial cells line the blood and lymphatic vessels and the internal cavities of the heart. They display a strongly flattened, polygonal form and mostly rest on a basal membrane. They adhere to each other by desmosomes and tight-junctions.

With a total cell number of about one trillion (10^{12}), the endothelium is one of the biggest organs of the body and plays a key role in many physiological and patho-physiological processes (e.g. cell-based immune response, wound healing, inflammation, allergy, cardiovascular diseases, tumour growth). A huge number of soluble factors circulating in the blood or released by neighbouring cells, control proliferation or apoptosis of endothelial cells and the invasion and migration of leucocytes to the endothelium, thereby regulating the maintenance, degeneration, or regeneration of blood vessels.

The endothelium constitutes a highly specialized organ that lines the vascular system and lymphatic channels in a complex network of arteries, veins, and micro-vessels which differ in size, structure, and function. The cultivation of endothelial cells from large vessels, predominantly from human umbilical vein, is a routine procedure in many laboratories, and this has contributed huge to the development of modern vascular biology. However, there is convincing evidence that micro-vascular endothelial cells display a number of important functional differences, compared to large vessel-derived

endothelial cells, with regard to their growth factor response and their regulation of adhesion molecule expression.

They serve as the barrier separating circulating blood from the extracellular matrix and interstitium in the body. Cells involved in the pathogenesis of tumor angiogenesis, wound healing, and acute or chronic inflammation are predominantly of micro-vascular origin. Several functions associated with the micro-vasculature in situ are expressed by micro-vascular endothelial cells in cell culture.

Micro-vessels are not simply tubes but have also a second cellular component, the mural cell or pericyte. Little is known about later stages of vessel growth, including the addition of pericytes to the capillary and its influence on endothelial growth and function. In vivo, pericytes form an incomplete envelopment around the endothelial cells within the micro-vascular basement membrane of capillaries and post-capillary venules.

Evidence clearly indicates that differences exist between endothelial cells of the microvasculature and those that line large vessels. These include differences in secreted products, in the expression of cell adhesion molecules, and in cytokine-induced regulation of cell adhesion molecules. Thus, a precise delineation of the biology of micro-vascular endothelial cells is crucial to our understanding of such important processes as inflammation, tumor progression, cardiac microcirculation, and blood-brain barrier function.

Endopan 3 Large Vessel Endothelial Cell Medium

Endopan 3 ready-to-use ⁽¹⁾	500 ml	P04-00100
Endopan 3 kit with 9 supplements ⁽¹⁾	500 ml	P04-0010K

Composition

Endopan 3 ready-to-use is a specially developed medium for the in vitro culture of human endothelial cells containing all components necessary for optimal growth. It is designed for use in an incubator at 37° C with a 5% CO₂ atmosphere.

Endopan 3 kit is provided with FBS and supplements in separate sterile packing. This will enable the user to prepare a medium for special application. For example, FBS, VEGF, FGF-2, or other components may be omitted from the complete medium for specific experimental settings.

Endopan MV Microvascular Endothelial Cell Medium

Endopan MV ready-to-use ⁽³⁾	500 ml	P04-00200 NEW
Endopan MV kit with 8 supplements ⁽³⁾	500 ml	P04-0020K NEW

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

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Endopan PRO Endothelial Progenitor Medium

Background

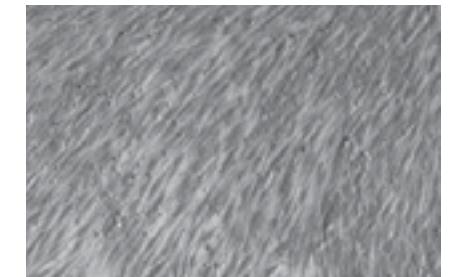
Endothelial cells line blood and lymphatic vessels and the internal cavities of the heart. They display a strongly flattened, polygonal form and mostly rest on a basal membrane. With a total number of about 10^{12} cells, the endothelium is one of the biggest organs of the body and plays a key role in many physiological and patho-physiological processes. A number of factors control proliferation or apoptosis of endothelial cells, thereby regulating the maintenance, degeneration, or regeneration of blood vessels.

New blood vessel formation occurs via angiogenesis or vasculogenesis, a process thought to be restricted to embryonic development. In 1997, postnatal vasculogenesis has been proposed as an important mechanism for angiogenesis via blood or bone marrow derived circulating progenitor endothelial cells (PEC) (Asahara et al, Science 1997). Consequently, PECs have been extensively studied as a potential cell therapy for the repair of damaged blood vessels. Animal studies clearly demonstrated that administration of PECs partially rescued cardiovascular dysfunction or myocardial injury with evidence for PEC contribution to new vessel growth. In most studies, PECs are defined by cell surface expression of CD34, CD133, or VEGF-R2 (KDR). Because these molecules are also present on hematopoietic progenitors, relying only on surface markers can not exclude a contamination with hematopoietic lineage cells. More recently, a PEC population has been identified which shows expression of endothelial as well as progenitor, but not hematopoietic cell markers (Ingram et al, Blood. 2004;104:2752). Importantly, these cells have been tested for a high proliferative potential in clonogenic assays and additionally characterized by formation of functional blood vessels in vivo (Yoder et al, Blood. 2007;109:1801).

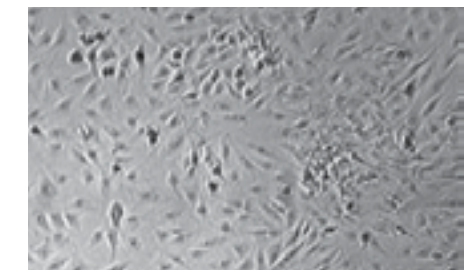
Composition

Endopan PRO ready-to-use is a complete medium specially developed for the in vitro culture of human progenitor endothelial cells (hPEC) containing all components necessary for optimal colony formation, clonogenic growth, and rapid proliferation.

Endopan PRO kit is provided with FBS growth supplement (pre-screened and tested for progenitor cells) and additional supplements in separate sterile packing. This will enable the user to prepare a medium for special application.



hPEC in Endopan PRO (P6)



hPEC colony (P1) with outgrowing cells in Endopan PRO

Endopan PRO ready-to-use ⁽³⁾	500 ml	P04-00700
Endopan PRO kit with 6 supplements ⁽³⁾	500 ml	P04-0070K

(1) usually on stock, (2) minimum order 10 l, (3) available upon request

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Pantum

Description

Pantum are ready-to-use growth media which contain purified plasma proteins and lipids, such as serum albumin and cholesterol, specific growth factors, components of soybean extract, an iron transport protein and enriched trace elements. The new formulations result in stable cell growth under defined culture conditions. No addition of serum or growth factors is necessary.

Pantum 386 for epithelial cells

Pantum 386 is a modified formulation of DMEM and specially developed to optimize the growth of epithelial cell lines.

Pantum 586A for adherent cells

Pantum 586A is particularly suited for culture of adherent cells to stimulate their growth. It is a modification of Iscove's MEM.

Pantum L24 for lymphocytes

Pantum L24 is suited for culture of peripheral blood lymphocytes. Adult lymphocytes lack the ability to proliferate. Therefore, Pantum L24 contains a mitogen (phytohemagglutinin, PHA) specifically acting on the cell cycle. It is a modified formulation of RPMI 1640.

Pantum T64 for tumor cells

Pantum T64 is specially developed for culture of tumor cells to stimulate the growth of this cell type. It is a modification of RPMI 1640.

Pantum 386 ⁽³⁾	500 ml	P04-00386	NEW
Pantum 586A ⁽³⁾	500 ml	P04-00586	NEW
Pantum L24 ⁽³⁾	500 ml	P04-00024	NEW
Pantum T64 ⁽³⁾	500 ml	P04-00064	NEW

Hepatopan Human Hepatocyte Medium

Description

Like every human organ, the liver consists of a complicated compound of different cells with varying functions. Hepatocytes represent – in terms of figures – with 75 % of the total number of liver cells the most important component. The metabolism, this means the chemical transformation of almost all substances which are taken in by the body, takes place in the liver.

Composition

The hepatocyte medium from PAN-Biotech is supplied as a basal medium with four supplements (storage of the supplements at -20° C). The supplements have to be added to the medium before use. The medium does not contain fetal bovine serum.

Hepatopan with 4 supplements ⁽³⁾	500 ml	P04-00600
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Melanopan Melanocyte Medium

Description

Melanocytes are embedded in the basal and spike cell layer of the epidermis. They produce the pigment melanin and take care of the protective function of the skin against UV damages. If the solar radiation is too strong, the melanocytes are damaged and can develop into tumour cells.

Composition

The melanocyte growth medium from PAN-Biotech is supplied as a basal medium with seven supplements (storage of the supplements at -20° C). The supplements have to be added to the medium before use. The medium does not contain fetal bovine serum.

Melanopan with 7 supplements ⁽³⁾	500 ml	P04-740500
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(1) usually on stock, (2) minimum order 10 l, (3) available upon request

PANTM
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Neuropan Neuronal Cell Medium

Neuropan Basal Medium

Neuropan basal medium supports the growth of hippocampus cells and many other neuronal cells of the central nervous system. A feeder layer of astrocytes is not required. Neuropan basal medium does not contain glutamate which should be added for the initial culture (25 µM). Before use, Neuropan basal medium is supplemented with serum or for a serum-free culture with Neuropan 27 or NS21 Supplement.

Neuropan 27 is a concentrate for the serum-free cultivation of neural cells.

NS21 Supplement

To culture neurons in the absence of serum, defined supplements such as B27 are widely used. However, available supplements exhibit some variability in their capability to support neurons in culture. NS21 Supplement is a newly developed serum substitute for neuronal cultures of cells from the central and peripheral nervous system.

Neuropan-Basal Media (Basicmedia) ⁽²⁾	500 ml	P04-00900
Neuropan 27 supplement 20x ⁽²⁾	100 ml 10 ml	P07-07100 P07-07010
Neuropan 27 supplement 50x ⁽²⁾	100 ml 10 ml	P07-07200 P07-07210
Neuropan 27 supplement 20x without Antioxidant ⁽²⁾	100 ml 10 ml	P07-10100 P07-10010
Neuropan 2 supplement 100x ⁽²⁾	100 ml 10 ml	P07-11100 P07-11010
NS21 Supplement 50x sterile ⁽³⁾	10 ml	P07-20021
NS21 Supplement 50x non-sterile ⁽³⁾	10 ml	P07-20001 NEW

Stempan ES-Cell Medium

Description

Stem cells are non-specialized cells with the ability (potency) to develop into different organo-typic cell types (e. g. heart, nerve, blood, muscle and cartilage cells). Depending on their origin, they are divided into embryonic and adult stem cells.

Composition

For the cultivation of embryonic stem cells, PAN-Biotech has developed a complete ready-to-use medium. The medium contains fetal bovine serum.

Stempan DMEM ⁽²⁾ with L-Glutamine with 3.7 g/L NaHCO ₃ without LIF	500 ml	P08-50500
Stempan GMEM ⁽²⁾ with L-Glutamine with 2.75 g/L NaHCO ₃ without LIF	500 ml	P08-50600

EMEM Fibroblasts Fibroblast Medium

Description

Based on EMEM, this medium was supplemented with amino acids and vitamins and optimized for an improved growth of fibroblasts.

For the cultivation of fibroblasts, this medium has to be supplemented with 10% FBS before use.

EMEM Fibroblasts ⁽¹⁾	500 ml	P04-08049
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(1) usually on stock, (2) minimum order 10 l, (3) available upon request

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Amniopan Prenatal Cytogenetics Medium

Description

Amniopan is a complete ready-to-use medium intended for in vitro diagnostic use with a short term culture of human fetal cells from amniotic fluid or chorion villi biopsy (CVS) material for a standardized application in cytogenetic studies.

Amniopan is intended for in vitro use and has been designed for establishing cultures of human fetal cells from amniotic fluid or chorion villi biopsies (CVS), which then can be used in karyotyping, fluorescence in-situ hybridisation (FISH) or other cytogenetic procedures. The media formulation of Amniopan was optimized on human fetal cells from amniotic fluid and CVS, with special emphasis on fast attachment of cells to the cell culture substrate and efficient cell growth to facilitate rapid diagnostic findings.

Composition

Amniopan is supplied frozen as a complete medium, ready-to-use in a 100 ml format. It is based on alpha-MEM and contains antibiotics, L-glutamine, foetal bovine serum (FBS), hormones and growth factors.

Suitability

Amniopan is a complete medium (ready-to-use) for the cultivation of human fetal cells from amniotic fluid and chorion villi biopsy samples. It is suitable for a rapid expansion of amniotic cells in order to investigate chromosomal disorders. The number and quality of metaphases in Amniopan are significantly higher and independent of individual batches as compared to other media.

Amniopan ⁽¹⁾	100 ml	P04-70100
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Amniopan S2 Prenatal Cytogenetics Medium

Description

Amniopan S2 is a complete ready-to-use medium intended for in vitro diagnostic use with a short term culture of human fetal cells from amniotic fluid or chorion villi biopsy (CVS) material for a standardized application in cytogenetic studies.

Amniopan S2 is intended for in vitro use and has been designed for establishing cultures of human fetal cells from amniotic fluid or chorion villi biopsies (CVS), which then can be used in karyotyping, fluorescence in-situ hybridisation (FISH) or other cytogenetic procedures.

The media formulation of Amniopan S2 was further optimized on human fetal cells from amniotic fluid and CVS, with special emphasis on fast attachment of cells to the cell culture substrate and efficient cell growth to facilitate rapid diagnostic findings.

Composition

Amniopan S2 is supplied frozen as a complete medium, ready-to-use in a 100 ml format. It is based on alpha-MEM and contains antibiotics, L-glutamine, fetal bovine serum (FBS), hormones and an increased amount of growth factors.

Suitability

Amniopan S2 is a ready-to-use medium for the cultivation of human fetal cells from amniotic fluid and chorion villi biopsy samples. It is suitable for a rapid expansion of amniotic cells in order to investigate chromosomal disorders. The number and quality of metaphases in Amniopan S2 are significantly higher and independent of individual batches as compared to other media.

Amniopan S2 ⁽¹⁾	100 ml	P04-70101 NEW
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(1) usually on stock, (2) minimum order 10 l, (3) available upon request

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Marrowpan Marrow Cell Medium

Description

Marrowpan is a complete ready-to-use medium intended for in vitro diagnostic procedures with a short term culture of bone marrow and other hematopoietic cells for cytogenetic studies.

Marrowpan is intended for in vitro use and has been designed for establishing cultures of bone marrow and leukemic blood cells, which then can be used in karyotyping, fluorescence in-situ hybridisation (FISH) or other cytogenetic procedures.

Marrowpan can be used as a neutral medium to culture different haematopoietic cells (myeloid and lymphoid lineages) present in bone marrow or leukemic blood samples. Marrowpan is also used together with a mitogen specific for B or T lymphocytes where these particular lineages are being investigated.

Composition

Marrowpan is supplied frozen as a complete medium, ready-to-use in a 100 ml format. It is based on alpha-MEM and contains antibiotics, L-glutamine, fetal bovine serum (FBS), hormones and growth factors.

Suitability

Marrowpan is a complete medium (ready-to-use) for the cultivation of cells from peripheral blood or bone marrow. It is suitable for a rapid expansion of blood cells in order to investigate leukemic diseases (e.g. ALL, AML, CLL, CML, MPN, MDS). The number and quality of metaphases in Marrowpan are significantly higher and independent of individual batches as compared to serum-containing media.

Marrowpan ⁽¹⁾	100 ml	P04-70200
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Marrowpan S2 Marrow Cell Medium

Description

Marrowpan S2 is a complete ready-to-use medium intended for in vitro diagnostic procedures with a short term culture of bone marrow and other hematopoietic cells for cytogenetic studies. Marrowpan S2 is intended for in vitro use and has been designed for establishing cultures of bone marrow and leukemic blood cells, which then can be used in karyotyping, fluorescence in-situ hybridisation (FISH) or other cytogenetic procedures.

Marrowpan S2 can be used as a neutral medium to culture different haematopoietic cells (myeloid and lymphoid lineages) present in bone marrow or leukemic blood samples. Marrowpan S2 is also used together with a mitogen specific for B or T lymphocytes where these particular lineages are being investigated.

Composition

Marrowpan S2 is supplied frozen as a complete medium, ready-to-use in a 100 ml format. It is based on alpha-MEM and contains antibiotics, L-glutamine, Foetal Bovine Serum (FBS), hormones and an increased amount of growth factors.

Suitability

Marrowpan S2 is a ready-to-use medium for the cultivation of cells from peripheral blood or bone marrow. It is suitable for a rapid expansion of blood cells in order to investigate leukemic diseases (e.g. ALL, AML, CLL, CML, MPN, MDS). The number and quality of metaphases in Marrowpan S2 are significantly higher and independent of individual batches as compared to serum-containing media.

Marrowpan S2 ⁽¹⁾	100 ml	P04-70201
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(1) usually on stock, (2) minimum order 10 l, (3) available upon request

PANTM
BIOTECH

Alphabetical Product Index

Product	Page	Product	Page
A			
Accutase	100	Earl's Buffered Salt Solution	94
Agarose	131	EDTA	101
Albumin, bovine	104	EMEM Fibroblast Medium	75
Albumin, human	104	Endopan 3	72
Alpha MEM	38	Endopan 300 SL	34
Amino Acids	97	Endopan MV	72
Amniopan	76	Endopan PRO	73
Amniopan S2	76	Enzymes for Cell Dissociation	100
Amphotericin B	98	F	
Animal Serum	11	FBS	5
Antibiotics	98	FBS Biotech	6
Antifungal Drugs	98	FBS Good	5
Attachment Factors	102	Fibronectin	103
B			
Bacitracin B	98	Freezing Medium	108
Barrycidal	110	G	
Barrydin	111	Gelatine Solution	102
Biologicals	115	Gentamycin Sulphate	98
BME Solution	97	Grey's Balanced Salt Solution	96
BME Vitamins	97	Glasgow MEM (BHK 21)	48
BME with Earle's Salts	40	Grace's Insect Medium	49
BME with Hank's Salts	40	Growth Factors	116
Bovine Serum	5	H	
Bovine Serum Albumin	104	Ham's F10 Medium	50
β-Mercapthoethanol	93	Ham's F12 Medium	51
C			
Chemokines	120	Hank's Balanced Salt Solution	95
CMRL-1066 Medium	41	HAT Supplement	93
Collagen A	102	HT Supplement	93
Collagen R	102	Hepatopan	74
Collagenase	100	Hepes - Sodium Salt	93
Cryo Preservation	108	Hepes Buffer	93
Cryopan	108	Human Cytokines	116
D			
Demecolcin Solution	93	Human Serum	12
Desipure	112	Human Serum Albumin	104
Dimethylsulfoxide	108	Human Transferrin apo	93
Disinfectants	109	Hygromycin B	98
Dispase	101	I	
DMEM/F12 Medium	46	Insulin Human	93
DMSO	108	IPL-41 Insect Medium	54
dNTP Mix	133	Iscove's Modified Dulbecco's Medium	52
dNTP Sets	132	ITS Solution	93
Dulbecco's Modified Eagle Medium	42	J	
Dulbecco's Phosphate Buffered Salt Solution	94	Joklik-MEM	55
K			
		Kanamycin Sulphate	98

Alphabetical Product Index

Product	Page	Product	Page
L			
Laminin Mouse	103	P	
Leibovitz's L-15 Medium	56	Panserin C6000	26
L-Glutamine	97	Panserin H4000	24
M			
Marrowpan	77	Panserin H8000	25
Marrowpan S2	77	Panserin ProVero	28
Mc Coy's 5A Medium	57	Panserin PX10	30
MCDB Medium	58	Panserin PX40	31
Media Supplements	93	Panserin S2	33
Medium 199 with Earle's Salts	59	Panserin T3	28
Medium 199 with Hank's Salts	60	PANsys 3000	135
Melanopan	74	Pantum	74
MEM	97	Penicillin	99
MEM Vitamine Solution	97	Pluronic	93
MEM with Earle's Salts	61	Polymerases	123
MEM with Hank's Salts	63	Polymycin B	99
Minocyclin	98	PowerScript DNA-Polymerase Long Range	128
Molecular Biology	123	PowerScript DNA-Polymerase Short Range	127
Mycorase	99	PowerStem ESPro 1	81
N			
Neomycin Sulphate	98	PowerStem ESPro2	82
Neuropan	75	PowerStem EST	83
Nystatin Solution	98	PowerStem HE1	84
P			
PAN DNA Clean	130	PowerStem HE2	85
PAN Hot Start DNA-Polymerase	126	PowerStem HPSC	89
PAN Ladder I	129	PowerStem iPS1	86
PAN SL-S Product Line	107	PowerStem iPS2	87
Pancoll	105	PowerStem MSC1	88
Panserin T3	28	PowerStem PEC1	90
Paneticin 420	99	PowerStem PEC1 kit	90
Panexin BMM	20	Proteinase K	129
Panexin NTA	18	Puck's Salt Solution A	96
Panexin NTS	19	R	
Panexin SL-S	107	RPMI 1640	64
PANScript DNA-Polymerase	124	S	
PANScript Red DNA-Polymerase	125	Schneider's Drosophila Medium	67
Pansera ES	7	Separating Solutions	105
Panserin 293A	27	Separating Solutions Pre-Filled	106
Panserin 293S	27	SL-S Collagen	107
Panserin 401	21	SL-S Cryopan	107
Panserin 411	22	SL-S Medium	107
Panserin 411S	22	SL-S Trypsin	107
Panserin 412	23	Sodium Bicarbonate	93
Panserin 413	23	Sodium Chloride	93
Panserin 416	23	Sodium Pyruvate	93
Panserin 701	29	Spodopan	32
Panserin 801	29	Stempan	75
		Sterile Water	93
		Streptomycin	99

Alphabetical Product Index

Product	Page
T	
TC 100 Insect Medium	68
Tiamulin	99
TNM-FH Medium	69
Treated Serum	10
Tryode's Salt Solution	96
Trypsin	101
Tryptose Phosphate	93
V	
Vitamins	97
W	
Waymouth's MB 752/1 Medium	70
William's Medium E	71
Z	
Zeocin	99

Numeric Product Index

Product No.	Page	Product No.	Page	Product No.	Page	Product No.	Page
360000	109	CB-1112011	118	CB-2120101	117	CB-2800001	116
360050	109	CB-1112012	118	CB-2120110	117	CB-2800002	116
360101	109	CB-1113008	116	CB-2120112	117	CB-2800007	116
360400	109	CB-1113011	116	CB-2120121	117	CB-2800008	116
361000	109	CB-1113012	116	CB-2130120	117	CB-2800010	116
365000	109	CB-1114002	118	CB-2130121	117	CB-2800011	116
465000	109	CB-1114011	118	CB-2130123	117	CB-3410010	118
660000	109	CB-1114013	118	CB-2130202	117	CB-3410011	118
700500	109	CB-1114100	118	CB-2130203	117	CB-4070010	117
701000	109	CB-1114102	118	CB-2130300	117	LS0002100	101
710500	109	CB-1115000	116	CB-2130301	117	LS0004174	100
720500	109	CB-1115001	116	CB-2130405	117	LS0004176	100
720501	109	CB-1115002	116	CB-2130407	117	LS0004180	100
730010	109	CB-1115006	116	CB-2130501	117	LS0004182	100
740010	109	CB-1116001	116	CB-2130600	117	LS0004186	100
2705005	103	CB-1117001	117	CB-2130603	117	LS0004188	100
2705001S	103	CB-1117001M	117	CB-2131000	117	LS0004194	100
CB-11000050	119	CB-1117007	119	CB-2131001	117	LS0004196	100
CB-1101001	116	CB-1117008	119	CB-2131201	117	MB-1100500	124
CB-1101002	116	CB-1118005	120	CB-2131500	117	MB-1100600	125
CB-1101003	116	CB-1118008	120	CB-2131501	117	MB-1120250	128
CB-1102010	116	CB-1119000	116	CB-2210000	119	MB-1120500	128
CB-1102011	116	CB-1119001	116	CB-2210001	119	MB-1860250	126
CB-1102021	116	CB-1122001	120	CB-2210002	119	MB-1860500	126
CB-1102023	116	CB-1125032	117	CB-2230030	119	MB-1865000	126
CB-1102024	116	CB-1127000	118	CB-2230031	119	MB-30010250	123
CB-1104112	116	CB-1127100	118	CB-2230111	119	MB-30020250	123
CB-1104113	116	CB-1200000	119	CB-2230120	119	MB-4300002	129
CB-1104201	116	CB-1210000	119	CB-2230121	119	P03-0010	42
CB-1104202	116	CB-1212011	119	CB-2230220	119	P03-0050	42
CB-1105001	117	CB-1212011M	119	CB-2230221	119	P03-01510	42
CB-1106001	117	CB-1214000	119	CB-2230300	119	P03-01550	42
CB-1108002	116	CB-1214001	119	CB-2230301	119	P03-02010P	55
CB-1108003	116	CB-1214120	119	CB-2230302	119	P03-02050P	55
CB-1108010	116	CB-1214121	119	CB-2230403	119	P03-0510	42
CB-1108011	116	CB-1232701	120	CB-2230600	119	P03-0550	42
CB-1108100	116	CB-1300058	117	CB-2230601	119	P03-0710	45
CB-1109200	118	CB-1300118	118	CB-2230602	119	P03-0750	45
CB-1109201	118	CB-1407003	120	CB-2231202	119	P03-0810	45
CB-1109301	118	CB-1412011	119	CB-2232000	120	P03-0850	45
CB-1110000	118	CB-1515001	116	CB-2232002	120	P03-0910	45
CB-1110001	118	CB-2015001	116	CB-2250001	119	P03-0950	45
CB-1110002	118	CB-2110000	116	CB-2310015	119	P03-1010	45
CB-1111122	118	CB-2110002	116	CB-2310016	119	P03-1050	45
CB-1111123	118	CB-2110003	116	CB-2330000	119	P03-1110	47
CB-1111131	118	CB-2110005	116	CB-2331001	119	P03-1150	47
CB-1111151	118	CB-2110100	116	CB-2420031	119	P03-1210	47
CB-1111153	118	CB-2110101	116	CB-2420032	119	P03-1250	47
CB-1111162	118	CB-2120100	117	CB-2430122	119	P03-1310	53

Numeric Product Index

Product No.	Page	Product No.	Page	Product No.	Page	Product No.	Page
P03-1350	53	P03-5010	50	P04-0065K	34	P04-07250	59
P03-1410	53	P03-5050	50	P04-00700	73	P04-07450	60
P03-1450	53	P03-5210	53	P04-0070K	73	P04-07500	59
P03-1510	56	P03-5250	53	P04-00900	75	P04-07600	60
P03-1550	56	P03-6010	47	P04-01158	43	P04-07753	60
P03-1610	56	P03-6050	47	P04-01159	43	P04-08049	75
P03-1650	56	P03-6110	47	P04-01161	43	P04-08050	61
P03-1710	57	P03-6150	47	P04-01163	44	P04-08056	62
P03-1750	57	P03-6510	45	P04-01500	42	P04-08150	61
P03-1810	57	P03-6550	45	P04-01501	43	P04-08250	62
P03-1850	57	P03-6810	48	P04-01515	42	P04-08500	62
P03-1910	59	P03-6850	48	P04-01516	43	P04-08509	61
P03-1950	59	P03-6910	48	P04-01548	42	P04-08510	62
P03-2110	60	P03-6950	48	P04-01548S1	42	P04-08549	62
P03-2150	60	P03-7210	65	P04-01549	42	P04-09050	61
P03-2310	39	P03-7250	65	P04-01550	42	P04-09500	62
P03-2350	39	P03-7310	66	P04-01551	42	P04-10050	63
P03-2410	39	P03-7350	66	P04-01555	43	P04-10500	63
P03-2450	39	P03-7410	61	P04-01597	44	P04-10599	63
P03-2510	39	P03-7450	61	P04-02500	42	P04-12049	50
P03-2550	39	P03-7610	66	P04-02500S1	43	P04-12050	50
P03-2610	39	P03-7650	66	P04-02501	43	P04-12500	50
P03-2650	39	P03-7710	65	P04-03500	43	P04-13050	50
P03-2710	62	P03-7750	65	P04-03503	44	P04-13500	50
P03-2750	62	P03-9010	49	P04-03510	44	P04-14500	51
P03-2810	62	P03-9050	49	P04-03550	43	P04-14501	51
P03-2850	62	P03-9110	49	P04-03551	44	P04-14550	51
P03-2910	62	P03-9150	49	P04-03556	43	P04-14559	51
P03-2950	62	P03-9210	54	P04-03560	44	P04-15500	51
P03-3010	62	P03-9250	54	P04-03588	44	P04-15600	51
P03-3050	62	P03-9310	67	P04-03590	43	P04-16151	65
P03-3110	48	P03-9350	67	P04-03591	43	P04-16500	66
P03-3150	48	P03-9610	68	P04-03596	43	P04-16515	66
P03-3310	63	P03-9650	68	P04-03598	44	P04-16516	64
P03-3350	63	P03-9710	69	P04-03600	43	P04-16520	66
P03-3910	50	P03-9750	69	P04-04057	44	P04-16530	66
P03-3950	50	P04-00024	74	P04-04500	43	P04-16598	66
P03-4010	50	P04-00064	74	P04-04510	43	P04-17500	64
P03-4050	50	P04-00100	72	P04-04550	44	P04-17510	65
P03-4110	51	P04-0010K	72	P04-05050	57	P04-17545	66
P03-4150	51	P04-00200	72	P04-05500	57	P04-17546	66
P03-4310	66	P04-0020K	72	P04-05540	44	P04-17550	65
P03-4350	66	P04-00386	74	P04-05545	44	P04-17598	66
P03-4410	65	P04-00507	61	P04-05550	44	P04-17599	65
P03-4450	65	P04-00508	62	P04-05551	42	P04-17850	65
P03-4510	70	P04-00509	62	P04-05610	57	P04-18000	64
P03-4550	70	P04-00586	74	P04-06500	57	P04-18047	66
P03-4810	71	P04-00600	74	P04-07050	59	P04-18050	66
P03-4850	71	P04-00650	34	P04-07150	59	P04-18500	66

Numeric Product Index

Product No.	Page	Product No.	Page	Product No.	Page	Product No.	Page
P04-19500	65	P04-33010P	95	P04-60225	106	P04-7411S1	22
P04-19550	66	P04-33050P	95	P04-60500	105	P04-77010K	81
P04-20050	52	P04-33100	95	P04-63100	105	P04-7701K	81
P04-20150	52	P04-33500	95	P04-63225	106	P04-77020K	82
P04-20150S2	53	P04-34100	95	P04-63500	105	P04-7702K	82
P04-20250	52	P04-341000	95	P04-64100	105	P04-77110K	84
P04-20259	53	P04-34500	94	P04-64500	105	P04-7711K	84
P04-20350	52	P04-35500	94	P04-65100	105	P04-77120K	85
P04-20351	53	P04-360010B	94	P04-65500	105	P04-7712K	85
P04-20450	53	P04-36050P	94	P04-67100	105	P04-77130K	86
P04-20451	53	P04-361000	94	P04-67500	105	P04-7713K	86
P04-20451S1	53	P04-362500	94	P04-68100	105	P04-77140K	87
P04-21049	65	P04-3625C	94	P04-68500	105	P04-7714K	87
P04-21050	38	P04-36500	94	P04-70100	76	P04-77210K	83
P04-21051	38	P04-3650C	94	P04-70101	76	P04-77250K	83
P04-21060	38	P04-37500	94	P04-70200	77	P04-77310K	88
P04-21150	38	P04-38500	94	P04-70201	77	P04-77350K	88
P04-21200	55	P04-39500	47	P04-710100	28	P04-77410K	89
P04-21250	38	P04-41150	47	P04-710110	28	P04-77450K	89
P04-21300	55	P04-41151	47	P04-710200	33	P04-7751	81
P04-21350	38	P04-41250	47	P04-710210	33	P04-77510K	81
P04-21500	38	P04-41251	47	P04-710401	21	P04-77620K	82
P04-21502	38	P04-41252	47	P04-71040M	21	P04-7762K	82
P04-22100	66	P04-41450	47	P04-710411	22	P04-777500	90
P04-22500	65	P04-41500	47	P04-710411M	22	P04-77750K	90
P04-25050	40	P04-41550	47	P04-710412	23	P04-80025P	97
P04-25500	40	P04-41650	47	P04-710413	23	P04-80050	97
P04-26050	40	P04-43100	93	P04-710416	23	P04-80053	58
P04-27050	56	P04-44100	94	P04-710608	27	P04-80054	58
P04-27054	56	P04-47500	96	P04-710608M	27	P04-80057	58
P04-27055	56	P04-48010P	96	P04-710609	27	P04-80100	97
P04-27500	56	P04-48050P	96	P04-710609M	27	P04-80100P	97
P04-28500	70	P04-48500	96	P04-710613	28	P04-80500	69
P04-29050	71	P04-49100	95	P04-710613M	28	P04-80500P	97
P04-29050S1	71	P04-49105	95	P04-710701	29	P04-81500	49
P04-29150	71	P04-49500	95	P04-710701M	29	P04-82010P	97
P04-29500	71	P04-49505	95	P04-710801	29	P04-82050	97
P04-29510	71	P04-50100	95	P04-710801	29	P04-82100	97
P04-30010P	94	P04-50105	95	P04-710PX10	30	P04-82500	49
P04-300500	107	P04-50500	95	P04-710PX40	31	P04-83500	69
P04-30050P	94	P04-50505	95	P04-714000	24	P04-84500	41
P04-30500	94	P04-51100	96	P04-714000M	24	P04-84600	41
P04-31500	94	P04-51500	96	P04-71411S	22	P04-850100	32
P04-32010P	95	P04-53500	94	P04-716000	26	P04-850500	32
P04-32050P	95	P04-54010P	96	P04-716000M	26	P04-85600	54
P04-32100	95	P04-54050P	96	P04-718000	25	P04-90065S	107
P04-32105	95	P04-54500	96	P04-718000M	25	P04-90500	67
P04-32500	95	P04-60100	105	P04-740500	74	P04-91500	67
P04-32505	95	P04-60125	106	P04-7411S0	22	P04-92500	68

Numeric Product Index

Product No.	Page	Product No.	Page	Product No.	Page	Product No.	Page
P04-93500	68	P06-07001	99	P06-14100	98	P07-20021	75
P04-951SA2	20	P06-07005	99	P06-15001	98	P07-90050	108
P04-95700	18	P06-07050	99	P06-15005	98	P07-91010	93
P04-95750	18	P06-07100	99	P06-15050	98	P07-92010	108
P04-95800	19	P06-07300	99	P06-15100	98	P07-92050	108
P04-95850	19	P06-07301	99	P06-16001P	99	P07-94050	107
P04-96500	48	P06-07305	99	P06-16005P	99	P08-02100	93
P04-97500	48	P06-07350	99	P06-16010P	99	P08-2000	97
P04-98500	48	P06-07800	98	P06-16020	99	P08-30100	97
P04-991000	93	P06-080050P	98	P06-16100	99	P08-31100	97
P04-991500	93	P06-080100P	98	P06-16220	99	P08-32100	97
P04-992000	93	P06-08020	98	P06-20020	102	P08-40100	97
P05-01100	93	P06-08025P	99	P06-20030	102	P08-41100	97
P05-01100P	93	P06-08100	98	P06-20100	102	P08-50500	75
P05-01500	93	P06-08100P	99	P06-20166	102	P08-50600	75
P05-01500P	93	P06-0849010	104	P06-20410	102	P10-019100	101
P05-39500	93	P06-0849050	104	P06-20501	103	P10-019500	101
P06-01001	98	P06-09050	99	P06-20650	107	P10-020100	101
P06-01005	98	P06-11025P	99	P06-21000	93	P10-020500	101
P06-01050	98	P06-11050P	99	P06-21100	93	P10-021100	101
P06-01050P	98	P06-11100P	99	P06-21500	93	P10-021500	101
P06-01100	98	P06-12001	99	P06-25200	102	P10-022100	101
P06-01100P	98	P06-12005	99	P06-26025	104	P10-022500	101
P06-01225P	98	P06-12050	99	P06-26050	104	P10-023100	101
P06-01250P	98	P06-12100	99	P06-28010	99	P10-0231SF	107
P06-02010P	98	P06-13001	98	P07-01100	93	P10-0231SP	101
P06-02025P	98	P06-13005	98	P07-02100	93	P10-023500	101
P06-02100	98	P06-13050	98	P07-03100	93	P10-0235SP	101
P06-03001	98	P06-13100	98	P07-03110	93	P10-024100	101
P06-03001P	98	P06-138110	104	P07-03200	93	P10-024500	101
P06-03004	98	P06-138150	104	P07-03210	93	P10-025025P	101
P06-03005	98	P06-138210	104	P07-03300	93	P10-025100	101
P06-03010P	98	P06-138250	104	P07-03310	93	P10-025100P	101
P06-03025P	98	P06-138310	104	P07-03400	93	P10-025500	101
P06-03050	98	P06-138350	104	P07-03410	93	P10-025500P	101
P06-03100	98	P06-138410	104	P07-04100	93	P10-026100	101
P06-04001	98	P06-138450	104	P07-04200	93	P10-026500	101
P06-04005	98	P06-1391050	104	P07-04300	93	P10-027100	101
P06-04010P	98	P06-1391100	104	P07-05020	93	P10-027500	101
P06-04050	98	P06-1391500	104	P07-05100	93	P10-028100	101
P06-04050P	98	P06-139210	104	P07-07010	75	P10-029100	101
P06-04100	98	P06-139250	104	P07-07100	75	P10-029500	101
P06-05050	98	P06-139310	104	P07-07200	75	P10-031100	93
P06-05100	98	P06-139350	104	P07-07210	75	P10-032100	101
P06-06010P	98	P06-139410	104	P07-10010	75	P10-033100	101
P06-06025P	98	P06-139450	104	P07-10100	75	P10-0331SF	107
P06-06050	98	P06-14001	98	P07-11010	75	P10-038100	101
P06-06100	98	P06-14005	98	P07-11100	75	P10-038500	101
P06-06100P	98	P06-14050	98	P07-20001	75	P10-040100	101

Numeric Product Index

Product No.	Page	Product No.	Page	Product No.	Page	Product No.	Page
P10-040500	101	P30-1985	10	P40-38100	6		
P10-100100	101	P30-2008	10	P40-38500	6		
P10-21100	100	P30-2009	10	P40-39100	6		
P-2060020	117	P30-2081	10	P40-39500	6		
P-2060100	117	P30-2085	10	P40-58100	6		
P-2061000	117	P30-2101	10	P40-58500	6		
P-2360011	117	P30-2102	10	P40-59100	6		
P-2360012	117	P30-2301	10	P40-59500	6		
P-2360013	117	P30-2302	10	P-4390002	119		
P-2701001	116	P30-2401	12	P-4390010	119		
P-2701002	116	P30-2402	12	P60-15840100	108		
P30-0101	11	P30-2501	12	P60-36720100	108		
P30-0102	11	P30-2502	12	PAN721064	127		
P30-01901	11	P30-2601	7	PAN721065	127		
P30-01901E	11	P30-2602	7	PAN733025	129		
P30-0200	11	P30-2605	7	PAN733026	129		
P30-0201	11	P30-2606	7	PAN737042	130		
P30-0210	11	P30-2608	7	PAN737046	130		
P30-0301	11	P30-2609	7	PAN739025	132		
P30-0302	11	P30-2701	12	PAN739026	132		
P30-0401	5	P30-2702	12	PAN739028	133		
P30-0402	5	P30-2801	10	PAN739043	133		
P30-0601	5	P30-2802	10	PAN741025	131		
P30-0602	5	P30-2901	12	PANsys3000	135		
P30-0701	11	P30-2902	12				
P30-0702	11	P30-3301	5				
P30-0801	11	P30-3302	5				
P30-0802	11	P30-3305	5				
P30-0901	11	P30-3306	5				
P30-0902	11	P30-3401	10				
P30-1001	11	P30-3402	10				
P30-1002	11	P30-3601	10				
P30-1101	11	P30-3602	10				
P30-1102	11	P30-4101	11				
P30-1301	5	P30-4102	11				
P30-1302	5	P30-5100	5				
P30-1401	5	P30-5500	5				
P30-1402	5	P30-8100	5				
P30-1501	5	P30-8500	5				
P30-1502	5	P-3340002	120				
P30-1505	5	P-3610002	116				
P30-1506	5	P-3860001	119				
P30-1701	5	P-3860002	119				
P30-1702	5	P40-1301	7				
P30-1905	10	P40-1302	7				
P30-1906	10	P40-1401	7				
P30-1908	10	P40-1402	7				
P30-1909	10	P40-37100	6				
P30-1981	10	P40-37500	6				



N.V. International Medical Products S.A.

INTERNATIONAL MEDICAL PRODUCTS

Waversesteenweg 1110, box 7

1160 Brussels - BELGIUM

T: +32 (0)2 660 50 75 - F: +32 (0)2 660 20 98

info@intermed.be - www.intermed.be



PAN-Biotech GmbH

Am Gewerbepark 13

D-94501 Aidenbach

GERMANY

Phone: +49 (0)8543/6016-30

Fax: +49 (0)8543/6016-49

www.pan-biotech.de

www.pan-biotech.com