biowest
The Serum Specialist

GENERAL CATALOG

8th edition

YOUR CELL CULTURE PARTNER

OUR CERTIFICATIONS

STE BIO WEST

RUE DE LA CAILLE
49340 NUAILLE
FRANCE

Bureau Veritas Certification France certifie que le système de management de l'organisme susmentionné a été audité et jugé conforme aux exigences de la norme :

EN ISO 13485:2016

Domaine d'activité

FABRICATION ET VENTE DE SERUMS ET REACTIFS POUR LA CULTURE CELLULAIRE.

MANUFACTURING AND SALES OF SERA AND REAGENTS INTENDED FOR CELL CULTURE.

Date de début du cycle de certification : **23 février 2024**
Sous réserve du respect des dispositions contractuelles et des résultats positifs des surveillances réalisées, ce certificat est valable jusqu'au : **22 février 2027**
Date d'expiration du cycle précédent : **22 février 2024**
Date d'audit de certification/recertification : **11 janvier 2024**
Date de certification originale : **22 janvier 2015**

Certificat n° : FR086506-1
Affaire n° : 20089849
Date de révision : 25 janvier 2024

Samuel DUPRIEU - Président

Adresse de l'organisme certificateur : Bureau Veritas Certification France 1 Place Zaha Hadid - 92400 Courbevoie

Des informations supplémentaires concernant le périmètre de ce certificat ainsi que l'applicabilité des exigences du référentiel peuvent être obtenues en consultant l'organisme.
Pour vérifier la validité de ce certificat, veuillez utiliser le QR Code.

1/1

ISO 13485:2016

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ISO 9001:2015

Your local distributor:

COMPANY PROFILE

KEY PLAYER FOR CELL CULTURE

QUALITY - EFFICIENCY - TRANSPARENCY - TRACEABILITY

Biowest is the European leader in the collection of animal sera.

Quality, efficiency and transparency commitments have made Biowest an European leader for over 35 years.
Combined with a fully integrated supply chain and confident distributor network around the world, Biowest has earned the trust of the life science industries.

All around the world, people need to be treated for different medical conditions. However, we first need to understand the biological pathway which occurs in our very complex human body.
In vitro cell culture has been an amazing advancement, allowing us to reproduce the same mechanisms that occur in vivo and to test the effect of different substances in a particular cell line. The use of *in vitro* cell culture has been responsible for reducing the unnecessary use of live animals for research, disease diagnosis, and the manufacture of vaccines. Cell culture techniques have also allowed the development of medical innovations, such as gene therapy and stem cell therapy. Remarkable developments have been made possible thanks to the availability and the quality of cell culture reagents.

Biowest is proud to be a key player in this field for over 35 years, by providing a large range of quality products.

Biowest offers a wide range of sera sources from multiple countries. Biowest is your guarantee of the best choice of serum origin and specifications, adjusted to your needs.

Biowest controls the production of sera throughout the entire process, from collection locations around the world, to the final shipment of bottled serum from our warehouse.
Thus guaranteeing a vertically integrated system of production and documentation.

Biowest has been a real partner in scientific breakthroughs for over 35 years.

2002

Cronie L., Defamie N., Dupays L., Theveniau-Ruissy M., Goffin F., Pointis G., Malassine G.A., **Connexin expression and gap junctional intercellular communication in human first trimester trophoblast,** Mol Hum Reprod. 11, 1005-13.

2007

Takahashi K., Tanabe K., Ohnuki M., Narita M., Ichisaka T., Tomoda K., Yamanaka S., **Induction of Pluripotent Stem Cells from Adult Human Fibroblasts by Defined Factors,** Cell 131, 861-872. **Nobel Prize 2012 winning article on Stem Cells by Dr Yamanaka.**

2009

Funakoshi-Tago M., Tanabe S., Tago K., Itoh H., Mashino T., Sonoda Y, Kasahara T., **Licochalcone A Potently Inhibits Tumor Necrosis Factor a-Induced Nuclear Factor-kB Activation through the Direct Inhibition of IkB Kinase Complex Activation,** Molecular Pharmacology 76, 745-753.

2011

Sato Y, Iketani M, Kurihara Y, Yamaguchi M, Yamashita N, Nakamura F, Arie Y., Kawasaki T, Hirata T, Abe T, Kiyonari H, Strittmatter SM, Goshima Y, Takei K., **Cartilage acidic protein-1B (LOTUS), an endogenous Nogo receptor antagonist for axon tract formation,** Science 333(6043), 769-73.

2016

Sanchez-Mejias E., Navarro V., Jimenez S., Sanchez-Mico M., Sanchez-Varo R., Nuñez-Diaz C., Trujillo-Estrada L., Davila JC., Marisa Vizuete, Gutierrez A, Vitorica J., **Solublephospho-tau from Alzheimer's disease hippocampus drives microglial degeneration,** Acta Neuropathol. 132(6), 897-916.

2023

Charvátová S., Motais B., Czapla J., Cichon T., Smolarczyk R., ZuzanaWalek, Giebel S., Hájek R., and Bagó Juli R., **Novel Local "Off-the-Shelf" Immunotherapy for the Treatment of Myeloma Bone Disease,** Cells 2023, 12(3), 448

Quality system

Using specialized equipment and detailed SOP, Biowest ensures quality at every stage, thereby securing a consistently high quality product with low intra-batch variation. We are ISO 9001 and ISO 13485 certified. Biowest is registered by the French Ministry of Agriculture (Regulation EC No. 1069 / 2009) under the agreement n° FR 49.231.001 for the production of animal by-products.

The EU is a pioneer in the traceability of animals via individual identification through ear tagging. In addition, the European Regulation EC No. 999/2011 establishes prevention and control measures concerning TSEs (BSE for bovine) in European animals.

Consequently the EU origin is the first choice for researchers in Japan and other selective markets.

Working on your request

With our unmatched knowledge of cell culture products, Biowest has the special ability to support specific customer needs.

The Biowest team can customize formulations according to the specific needs of your research. Together, we can define every aspect of your custom-made product from beginning to end.

Technical support

The experienced Technical Service Staff of Biowest is available to answer questions regarding our quality control and all Biowest products.

We aim to provide timely, courteous and professional service.

«Our people around the world work with a strong commitment to quality, reproducibility, traceability and service.»

Find articles referenced and other information on:

www.biowest.net

SERUM & PLASMA

LEGEND

State

- Liquid
- Powder
- Frozen

Storage condition

- Temperature
- Shelf life, in months

CHAPTER SUMMARY

ABOUT SERUM

The biomedical sciences have existed for one century. During the last 35 years only, millions of scientific articles have been made possible thanks to serum. For years, serum has been a needed growth supplement for a large percentage of cell lines. Today, serum is required in basic research, target/drug discovery, drug development, and clinical diagnostic applications. Serum provides nearly all the components required for both adherent and suspension cell cultures, such as growth factors, attachment factors, carrier proteins, lipids and hormones. Fetal Bovine Serum is the most widely used supplement for *in vitro* mammalian cell culture.
It has affected almost all parts of the life science industry.

Value chain

When scientists select their sera, an important factor taken into consideration is the source. Therefore, traceability of the serum is of paramount importance.
Biowest guarantees compliance with the ethics code established by the serum industry, along with all regulatory obligations.
Each manufactured batch is rigorously controlled, from the collection of the serum and throughout all stages of its treatment and production, to the final packaging on our premises. The product is analyzed, classified, and tested by Biowest before being shipped to customers all over the world.
Our Quality System can trace raw materials back to the original supplier and slaughterhouse where they were collected. By controlling the entire collection and manufacturing processes, as well as using state-of-the-art IT software, Biowest guarantees the accuracy of geographic origin and all other data stated on the Certificate of Analysis.

Worldwide sourcing

Biowest offers a wide range of sources from countries with excellent veterinary status. This includes sources from South America, South Africa, as well as European Union (EU) and United States Department of Agriculture (USDA) approved sources.

The choice of the FBS source is determined by import requirements and according to market's needs.
Biowest is the ideal partner for academic researchers and biopharmaceutical companies who select FBS based on origin and performance.

Technical support

Raw pooled serum is filtered through a triple series of 0.1 µm sterilizing filters for FBS.
The sterile filtered serum is true-pooled to ensure homogeneity. Biowest products are packaged via an aseptic filling process, for which each step has been carried out to ensure products meet industry sterility standard assurance level of 10^{-4} (i.e., product that demonstrates a bacterial and fungal contamination level of no more than 1 of 10,000 units during the manufacturing process). The highest level of sterility assurance ($\geq 10^{-6}$) cannot be achieved without terminal sterilization. Filtration and dispensing are performed in positive-pressure, HEPA-filtered, and environmentally controlled rooms.

QUALITY CONTROL TESTS

Sterility

All sera are tested for the absence of aerobic and anaerobic bacteria, fungi and yeast.
The sterility test procedure is based on the European Pharmacopoeia or US Pharmacopoeia, depending on the location of final filtration. Products are dispensed via an aseptic process to ensure that all Biowest products achieve the highest Sterility Assurance Level. A representative number of samples from each production batch is selected for sterility testing.

Mycoplasma

Each final product batch is tested for the absence of Mycoplasma using a cell culture assay on selective media. Our test is accurate within the limits of the detection method used.

Haemoglobin

A quantitative assay is performed to determine the residual haemoglobin concentration in each product/batch. The haemoglobin level is measured with a spectrophotometer.

Cell Culture Testing

Each batch of FBS is tested for its ability to support *in vitro* growth of specific cell lines.
To verify that each batch of sera passes our exact quality control specifications, three important performance criteria are evaluated in our Quality Control Program:

- Growth Promotion
- Cloning Efficiency
- Plating Efficiency

Biological performance is assessed using cell culture medium supplemented with a final concentration of 10% of serum. During the test period, cultures are examined microscopically for any morphological abnormalities that may indicate toxic components in the serum.

The following cell lines are used to determine growth promotion and functionality of FBS:

Cell Line	Type	Species
HELA	Cancer	Human
L929	Fibroblast	Mouse
SP2/0-AG14	Lymphoma	Mouse
MRC-5	Lung	Human

Endotoxin Test (LAL)

All sera are tested to determine and quantify endotoxin levels. Biowest performs a chromokinetic quantitative test, method D of the European Pharmacopoeia.

Total Protein

Total Protein is determined by Biuret Colorimetry. Albumin and globulins levels are determined by immunoturbidimetry.

Osmolality

Osmolality is determined by a lowered freezing temperature (chapter 2.2.35 of the European Pharmacopoeia). The osmometer is calibrated using traceable standards.

pH

pH is determined by potentiometric methods, (chapter 2.2.3 of the European Pharmacopoeia). All pH meters are calibrated daily with standard solutions.

Other tests

BSE screening tests are carried out as part of a surveillance and control program established by the competent veterinary authorities based on European Regulation EC No. 999/2011.
Additional tests may also be performed in specific cases, including:

- suspected cases (symptoms or clinical signs)
- specific control programs
- import/export of bovine

Test	Prionics® -Check WESTERN
Method	Western Blot

Virus Testing

Depending on the species of the serum, each batch of serum is tested for adventitious viruses using cell culture techniques.
Bovine sera are tested for the absence of the indicated viruses by inoculation with GBK cells. The detection of virus is made by indirect immunofluorescence.
The presence of specific antibodies is detected by an ELISA Assay. For example, the serum from equidae is tested for the presence of Equine Infectious Anemia antibodies by ELISA.

Storage

All Biowest products have labels indicating storage conditions, batch number, and expiry date.
Optimal product performance is guaranteed, when the product is stored properly. Animal sera and plasma are stored at -20°C.

Expiration date

The shelf life for animal serum is 60 months and for animal plasma 48 months.

Intended Use

These products are intended to be used for research applications or further manufacturing only.
It is the end user's responsibility to qualify these products for their specific application. These products are not for diagnostic use. The safety and efficacy of these products in diagnostic or other clinical uses have not been established.

CERTIFICATIONS

European Directorate for the Quality of Medicines

EDQM certified FBS is your guarantee that the origin and the manufacturing process of the product have been certified by the European Directorate for the Quality of Medicines & HealthCare.
The EDQM protects and promotes public and animal health in Europe. Its mission is to contribute to the basic human right of access to good quality medicines and healthcare, and to promote and protect human and animal health. This goal is achieved by establishing and providing official standards for the manufacture and quality control of medicines valid in all the signatory states of the Convention for the Elaboration of a European Pharmacopoeia.
Biowest can provide sterile filtration and packaging of serum in its own facility. That meets the criteria described in the current version of the product monograph, without the risk of transmitting agents of animal spongiform encephalopathies, (n° 1483 of the European Pharmacopoeia). This is certified by the EDQM.
The countries of origin of EDQM certified FBS are Argentina, Brazil, Chile, Colombia, Costa Rica, Denmark, France, Ireland, Italy, Mexico, Panama, Paraguay, Spain, Uruguay, USA. We are also EDQM certified for Calf Serum from France.

Certification of Substances Department

Certificate of suitability
No. R1-CEP 2007-074 - Rev 03

Name of the substance:
FOETAL BOVINE SERUM

Name of holder:
BIO WEST SAS
Rue De La Caille
France-49340 Nuaillé

Site(s) of production:
BIO WEST SAS
Rue De La Caille
France-49340 Nuaillé

BIO NUTRIENTES DO BRASIL LTDA
Avenida Copacabana 177, Sala124
Empresarial 16 Do Forte Barueri
Brazil-06472-001 São Paulo

THIS CERTIFICATE SUPERSEDES THE PREVIOUS CERTIFICATE
R1-CEP 2007-074 - REV 02

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

– Countries of origin of source materials:
Argentina, Brazil, Chile, Colombia, Costa Rica, Denmark, France, Ireland, Italy, Mexico, Panama, Paraguay, Spain, United States of America and Uruguay

– Nature of animal tissues used in manufacture:
Foetal bovine blood

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

ESPA

Biowest is also an active member of ESPA (European Serum Products Association).
This association's mission is to promote the safe use of serum, connect companies in the serum processing industry across the EU and Non-EU countries, and to represent their interests.
For more information: www.serumproducts.eu

How does Biowest work?

FBS quality is defined in relation to the growth promotion characteristics of specific cell lines when cultured in our sera. A batch of FBS which works well for one cell line may not work well for another cell line. Biowest customers can purchase FBS after performance-testing of a sample has been completed. There are thousands of different cell lines and each batch of FBS is unique: we therefore offer a Sample and Reserve Policy. Each batch is delivered with a Certificate of Analysis.
Biowest is pleased to provide free samples of different batches combined with batch reservations during the test period, for up to 4 to 6 weeks. The sample volume for FBS is 50 ml.
After batch testing, the reservation must be confirmed with an initial order. For customers who do not have ample storage facilities, we can store the reserved batch for up to 12 months, combined with scheduled shipments.

Invitation to customer

Traceability is a component of ISO audits. Each batch of sterile filtered serum is controlled internally, beginning with the importation of raw serum, all the way through to final filtration and labeling. Copies of all documentation are available in paper and electronic formats. Biowest invites customers to follow a bottle and batch of serum back to the abattoirs and countries from where the raw serum was collected, and to confirm the harvesting of raw serum, all the way forward to the finished batch of sterile filtered serum. We invite you to become familiar with Biowest's certifications, traceability system, and integrated controls (QA SOPs, SAP) as part of a traceability audit.

FETAL BOVINE SERUM

Fetal Bovine Serum (FBS) is the most widely used supplement for *in vitro* mammalian cell culture. FBS is an extremely complex supplement which promotes cell growth and survival in an *in vitro* environment.
Biowest Fetal Bovine Serum is derived from clotted whole blood, aseptically collected from bovine fetuses by cardiac heart punction.

FBS South America Origin

S1810 - 100	100 ml	Frozen	-20°C	60 months
S1810 - 500	500 ml			

FBS EU Origin

S1400 - 100	100 ml	Frozen	-20°C	60 months
S1400 - 500	500 ml			

FBS USA Origin

S1520 - 100	100 ml	Frozen	-20°C	60 months
S1520 - 500	500 ml			

FBS Central America Origin

S1600 - 100	100 ml	Frozen	-20°C	60 months
S1600 - 500	500 ml			

FBS Uruguay Origin

S1580 - 100	100 ml	Frozen	-20°C	60 months
S1580 - 500	500 ml			

FBS South Africa Origin

S1300 - 100	100 ml	Frozen	-20°C	60 months
S1300 - 500	500 ml			

FBS Oceania Origin

S1700 - 100	100 ml	Frozen	-20°C	60 months
S1700 - 500	500 ml			

FBS Chile

S1560 - 100	100 ml	Frozen	-20°C	60 months
S1560 - 500	500 ml			

ALL GRADES OF FETAL BOVINE SERUM

FBS Premium

FBS Premium is a collection of high quality batches, selected on excellent and defined values for essential data:

- **Endotoxin level < 5 EU/ml**
- **Haemoglobin level < 25 mg/100 ml**
- **Growth promotion > 80% guaranteed***

** See page 11: tested on cells lines SP2/0-AG14, HELA, L929 and MRC-5.*

By respecting those criteria, we ensure you a low batch-to-batch variation.
By using FBS Premium, our customers save time in their daily work as they avoid time consuming batch testing.

FBS Premium, South America Origin

S181B - 100	100 ml	Frozen	-20°C	60 months
S181B - 500	500 ml			

FBS Premium, EU Origin

S140B - 100	100 ml	Frozen	-20°C	60 months
S140B - 500	500 ml			

- **Other packagings available on request.**
- **Other origins available on request.**

FBS Ultra-Low Endotoxin

FBS Ultra-Low Endotoxin has a guaranteed endotoxin level of < 0.5 EU/ml and is suitable for most sensitive cell cultures or other applications that could be disturbed by high endotoxin levels. It has the same high quality standards as our other sera, is triple 0.1 µm filtered and tested for virus and mycoplasma contamination.

FBS Ultra-Low Endotoxin, South America Origin

S1860 - 100	100 ml	Frozen	-20°C	60 months
S1860 - 500	500 ml			

- **Other packagings available on request.**

FBS Tetracycline Free

The serum is tested for the presence of chlortetracycline, oxytetracycline and doxycycline by a liquid chromatography electrospray ionisation with mass spectrometry method.
The detection limit is < 0.01 mg/l.

FBS Tetracycline Free, South America Origin

S181T - 100	100 ml	Frozen	-20°C	60 months
S181T - 500	500 ml			

To order this treatment for any other serum using code T, please replace the last number of its Cat N° by the letter T.

FBS Embryonic Stem Cells tested

Pre-screening of the serum is an essential procedure before using it for the culture of mouse Embryonic Stem Cells (mES). mES Cell Qualified FBS are manufactured for maximum *in vitro* growth and maintenance of mES cells in the undifferentiated state.

FBS Embryonic Stem Cells tested, South America Origin

S181S - 100	100 ml	Frozen	-20°C	60 months
S181S - 500	500 ml			

To order this treatment for any other serum using code S, please replace the last number of its Cat N° by the letter S.

FBS Biopharm (EDQM certified)

FBS Biopharm is the high quality FBS grade of choice for biopharmaceutical production, vaccine production and all applications where the highest standards of product quality and documentation are required.

FBS Biopharm (EDQM certified), South America Origin

S181A - 100	100 ml	Frozen	-20°C	60 months
S181A - 500	500 ml			

To order this treatment for any other serum using code A, please replace the last number of its Cat N° by the letter A.

TREATMENTS

Treated serum are semi-processed or sterile filtered serum that has been subjected to one or more modification processes, or that has been enhanced or altered in some way. Biowest offers the following treated products.

Gamma Irradiation

Gamma irradiated serum minimizes the risk associated with the use of animal products and offers protection against low levels of microbial contaminants. The treatment inactivates viruses of potential concern such as foot and mouth disease, vesicular stomatitis, rinderpest, peste des petits ruminants, Rift valley fever, bluetongue, etc, while maintaining growth promotion potential. The serum is gamma irradiated on a regular basis at 25 kGy and other doses are available upon request.

FBS Gamma irradiated, South America Origin

S181G - 100	100 ml	Frozen	-20°C	60 months
S181G - 500	500 ml			

To order this treatment for any other serum using code G, please replace the last number of its Cat N° by the letter G.
Other origins available on request.

Heat Inactivation

Heat treatment allows to inactivate the complement acting in the immune system to avoid an interference with some experimentation, espacially in immunology. It also allows to inactivate viruses and to eliminate some bacterial contaminants such as the mycoplasma. The treatment is a heating of the serum at 56°C for 30 minutes.

FBS Heat Inactivated, South America Origin

S181H - 100	100 ml	Frozen	-20°C	60 months
S181H - 500	500 ml			

To order this treatment for any other serum using code H, please replace the last number of its Cat N° by the letter H.
Other origins available on request.

pH treated

Several treatments are recognized by the European Union to allow the importation of serum from countries unable to export fresh bovine meat. pH treatment is one of them. The process involves an acidification with hydrochloric acid before neutralization with sodium hydroxide.

FBS pH treated, South America Origin

S181P - 100	100 ml	Frozen	-20°C	60 months
S181P - 500	500 ml			

To order this treatment for any other serum using code P, please replace the last number of its Cat N° by the letter P.
Other origins available on request.

Dialysis

Dialysis reduces the concentration of free low molecular weight components such as nucleotides, amino acids, hormones and ions. Dialysed serum is recommended for studies with low concentrations of small molecules needs.
We use a dynamic filtration method to produce our dialysed serum. The sera are dialysed using a 10 kDa molecular weight cut-off membrane.

FBS Dialysed, South America Origin

S181D - 100	100 ml	Frozen	-20°C	60 months
S181D - 500	500 ml			

- **To order this treatment for any other serum using code D**, please replace the last number of its Cat N° by the letter D.
- **Other origins available on request.**

Lipid Depletion

Biowest uses the fumed silica precipitation method for removing lipids.
Lipid depleted serum is ideally suited for applications requiring a low concentration of lipids.

FBS Lipid Depleted, South America Origin

S181L - 100	100 ml	Frozen	-20°C	60 months
S181L - 500	500 ml			

- **To order this treatment for any other serum using code L**, please replace the last number of its Cat N° by the letter L.
- **Other origins available on request.**

Iron Supplementation

A 1% Ferric Citrate sterile solution is added to the serum at 0.246% (v/v).
Transferrin is normally 20 to 40% bound to iron.

FBS Iron Supplemented, South America Origin

S181R - 100	100 ml	Frozen	-20°C	60 months
S181R - 500	500 ml			

- **To order this treatment for any other serum using code R**, please replace the last number of its Cat N° by the letter R.
- **Other origins available on request.**

IgG Depletion

IgG depleted serum is treated with a proprietary chromatography method.
This treatment reduces the level of IgG for which Biowest guarantees ultra low IgG levels < 5 µg/ml.

FBS IgG Depleted, South America Origin

S181I - 500	500 ml	Frozen	-20°C	60 months

- **To order this treatment for any other serum using code I**, please replace the last number of its Cat N° by the letter I.
- **Other origins available on request.**

Extracellular Vesicles Depletion

Extracellular Vesicles Depleted serum is treated with our proprietary ultrafiltration method.
This treatment depletes the microvesicles naturally present in the serum.
Biowest guarantees at least ≥ 95% depletion of exosomes.

FBS E.V. Depleted, South America Origin

S181M - 050	50 ml	Frozen	-20°C	60 months

- **To order this treatment for any other serum using code M**, please replace the last number of its Cat N° by the letter M.
- **Other origins available on request.**

Charcoal Stripping

Charcoal/Dextran stripping reduces the concentration of steroid hormones in serum such as estradiol, progesterone, cortisol, testosterone, T3 and T4.
This serum is useful when endogenous molecules may interfere with experimental work.

FBS Charcoal Stripped, South America Origin

S181F - 100	100 ml	Frozen	-20°C	60 months
S181F - 500	500 ml			

- **To order this treatment for any other serum using code F**, please replace the last number of its Cat N° by the letter F.
- **Other origins available on request.**

ANIMAL SERUM

All animal sera can be treated, please inquire about the possibilities.

Bovine sera

Bovine Serum

S0250 - 100	100 ml	Frozen	-20°C	60 months
S0250 - 500	500 ml			

Calf Serum

S0400 - 500	500 ml	Frozen	-20°C	60 months

New Born Calf Serum

S0750 - 500	500 ml	Frozen	-20°C	60 months

Equine sera

Donor Horse Serum

S0900 - 100	100 ml	Frozen	-20°C	60 months
S0900 - 500	500 ml			

Horse Serum

S0910 - 100	100 ml	Frozen	-20°C	60 months
S0910 - 500	500 ml			

Donor Foal Serum

S0800 - 500	500 ml	Frozen	-20°C	60 months

Fetal Horse Serum

S0960 - 500	500 ml	Frozen	-20°C	60 months

Donkey Serum

S2170 - 100	100 ml	Frozen	-20°C	60 months
S2170 - 500	500 ml			

Other animals

Rabbit Serum

S2500 - 500	500 ml	Frozen	-20°C	60 months

Pig Serum

S2400 - 500	500 ml	Frozen	-20°C	60 months

Goat Serum

S2000 - 100	100 ml	Frozen	-20°C	60 months
S2000 - 500	500 ml			

Sheep Serum

S2350 - 500	500 ml	Frozen	-20°C	60 months

Chicken Serum

S0500 - 500	500 ml	Frozen	-20°C	60 months

Mouse Serum

S2160 - 020	20 ml	Frozen	-20°C	60 months
S2160 - 050	50 ml			
S2160 - 100	100 ml			
S2160 - 500	500 ml			

Rat Serum

S2150 - 020	20 ml	Frozen	-20°C	60 months
S2150 - 050	50 ml			
S2150 - 100	100 ml			
S2150 - 500	500 ml			

Guinea Pig Serum

S2450 - 010	10 ml	Frozen	-20°C	60 months
S2450 - 100	100 ml			

Dog (Canine) Serum

S2900 - 010	10 ml	Frozen	-20°C	60 months
S2900 - 100	100 ml			

- **Other packagings available on request.**
- **Other species available on request.**

ANIMAL PLASMA

Bovine Plasma w/ Sodium Citrate

S0260 - 500	500 ml	Frozen	-20°C	48 months

Rabbit Plasma w/ EDTA

S2600 - 500	500 ml	Frozen	-20°C	48 months

- **Other packagings available on request.**
- **Other species available on request.**

SERUM REPLACEMENT

FreeAdd is a chemically defined substitute for animal serum. It provides the necessary nutritional support for cell growth, development and expression. It is free from animal and human origin growth factors, non-defined components such as hydrolysates, and has an ultra-low recombinant protein content. FreeAdd performs equally as well or better than animal serum in cell cultures, and can be used for most cell lines, stem cells, primary cells and insect cells.

Benefits:

- Prevents potential virus contamination
- Multiple packaging options
- No batch variation
- Supply reliability

FreeAdd 1X

S6010 - 100	100 ml	Liquid	+2°C/+8°C	12 months
S6010 - 500	500 ml			

BOVINE SERUM ALBUMIN

LEGEND

State

- Liquid
- Powder
- Frozen

Storage condition

- Temperature
- Shelf life, in months

BOVINE SERUM ALBUMIN - BSA

Bovine Serum Albumin (BSA) is a little protein of 66-68 kDa present in animal serum and makes up approximately 60% of all proteins.

The main role of BSA in cell culture is to be a carrier of small molecules. Because of its negative charge, BSA binds water, salts, fatty acids, vitamins and hormones, and then carries these bound components between tissues and cells. The binding capacity of BSA makes it an effective scavenger to remove toxic substances, including pyrogens, from the medium. BSA is produced using a unique patented method derived from the «Heat shock» method.
Albumins are frequently used as stabilizers for other solubilized proteins (e.g., labile enzymes).

Bovine Serum Albumin Lyophilised pH ~7

P6154 - 100GR	100 g	Powder	+2°C/+8°C	36 months
P6154 - 500GR	500 g			
P6154 - 1KG	1 kg			

Bovine Serum Albumin Protease Free Lyophilised

P6155 - 100GR	100 g	Powder	+2°C/+8°C	36 months
P6155 - 500GR	500 g			
P6155 - 1KG	1 kg			

Bovine Serum Albumin Fatty Acids Free

P6156 - 100GR	100 g	Powder	+2°C/+8°C	36 months
P6156 - 500GR	500 g			
P6156 - 1KG	1 kg			

Bovine Serum Albumin 30% liquid

A0296 - 100	100 ml	Liquid	+2°C/+8°C	36 months
A0296 - 500	500 ml			
A0296 - 1000	1000 ml			

HUMAN PRODUCTS

LEGEND

State

- Liquid
- Powder
- Frozen

Storage condition

- Temperature
- Shelf life, in months

HUMAN SERUM, PLASMA & ALBUMIN

Human serum «off-the-clot» is processed from human blood that has coagulated. The plasma is processed from donation of human blood that was collected on Anticoagulant Citrate Phosphate Dextrose (CPD) then centrifuged or processed from apheresis on Anticoagulant Acide Citrate Dextrose (ACD-A).
It is collected from volunteer donors. Each batch is rigorously controlled and screened for Hepatitis B (HBS), Hepatitis C (HCV) and HIV Type 1 and 2 (HIV1/2).
Our human products are mainly sourced in Europe, UK and USA.

- **Important : Products of human origin should be considered potentially infectious and handled accordingly. Authorization is required for the use of the product.**

Human Serum AB male HIV tested

S4190 - 100	100 ml	Frozen	-20°C	60 months

Human Serum HIV tested

S4200 - 100	100 ml	Frozen	-20°C	60 months

Human Plasma pooled

S4180 - 100	100 ml	Frozen	-20°C	48 months
S4180 - 500	500 ml			

Human Serum Albumin

P6140 - 100GR	100 g	Powder	-20°C	36 months
P6140 - 500GR	500 g			
P6140 - 1KG	1 kg			

- **Human Serum is available with treatments (see pages 17-18-19).**
- **Please contact us so we can make your custom made product on request.**

CELL CULTURE MEDIA & SUPPLEMENTS

LEGEND

State

- Liquid
- Powder
- Frozen

Storage condition

- Temperature
- Shelf life, in months
- Composition

CHAPTER SUMMARY

ABOUT CELL CULTURE MEDIA & SUPPLEMENTS

Standard Media

Biowest media formulations are manufactured following original publications, standards set by the Tissue Culture Association and accepted formulations. Formulations may vary from these standards by substituting hydrated, chlorinated and/or the salt forms of certain compounds where such substitutions contribute to improved performance of the product.

Custom Made Formulations

Biowest can also provide the preparation and production of customized cell culture media. When given the list of components needed and the corresponding quantities via a form, we will produce the media to your requirements (with pilote batch if necessary).

Quality Assurance

All of the chemicals, raw materials and equipment that we use are of the highest quality. Inorganic chemicals are analytical, ACS, USP, EP, FCC grade or otherwise the finest grade available. All other components are evaluated by standards established by Biowest.
All new batches of chemicals are introduced into the process, only after stringent QC.
The water used for media preparation is of the highest quality. It is purified water produced in several steps, including centrifugal distillation and testing for endotoxins. The resistivity is measured in-line. The water is always freshly processed and cooled down to 25°C before adding the powder media.

Equipment and conditions

All equipment used for the manufacturing of powder and liquid media are made of chemically inert materials which will not contaminate the final product.
For nearly 35 years, Biowest has supplied the cell culture industry, following strict environmental conditions regarding cleanliness and moisture. Humidity and temperature are monitored constantly to guarantee that all chemicals are ground into fine powder. The sterilization of liquid media is performed by sterile filtration (the filter size is indicated in the TDS and CoA).

Batch size

Batch sizes for powder media range from 50 to 10,000 liters, and for liquid media from 50 to 1,400 liters.

Testing the final product

The powder and liquid media are tested for pH, osmolality and endotoxin (see methods page 12).

The chemical composition and the homogeneity of the mixture of the powder media are controlled by analysis of glucose or sodium in the sample.

Powder media are tested for osmotic effects. The liquid media are tested for sterility and biological performance test is done on different cell lines for each type of media.

Storage and stability

Powder media must be stored in their original containers and in dry, dark conditions. Heat, light and humidity can greatly affect the performance of powder media, therefore we recommend that left over powder be stored correctly.
Liquid media must be stored at -20°C, +2°C/+8°C or at room temperature in the dark.

All information are available on our Technical Data Sheets.

Advantages of liquid media

1. Lower labour costs
2. Quality control and functional testing
3. Stock inventory is easier to control

The protocols for all processing steps and the final test results, reassure the customer that each batch meets the specific criteria and has been manufactured to the product specifications. The retained samples also allow further testing in long term shelf-life studies, as well as quality control testing in response to customer inquiries.

Advantages and use of powder culture media

While liquid media are convenient to use, there are several drawbacks which make powder media also attractive:

1. Long term studies can be carried out using a single batch of powder medium
2. Longer storage time
3. Reduces the unit costs by 3-10 times
4. Storage space is greatly reduced

INSTRUCTIONS

How to store your product?

Store the dry powder media at +2°C/+8°C under dry conditions in the dark, and liquid media at +2°C/+8°C in the dark.

Deterioration of the powder media may be recognized by any or all of the following:

- **color change**
- **granulation / clumping**
- **insolubility**

Deterioration of the liquid medium may be recognized by any or all of the following:

- **pH change**
- **precipitate or particulate throughout the solution**
- **cloudy appearance**
- **color change**

The nature of supplements added to the media may affect its storage conditions and shelf life.
The product label bears the expiration date.

How to prepare your solution from powder media?

Powder media are extremely hygroscopic and should be protected from atmospheric moisture. The entire content of each package should be closed immediately after opening. Preparing a concentrated solution of media is not recommended since precipitates may form.
Supplements can be added prior to filtration or introduced aseptically to sterile filtered media. The nature of supplements added to the media may affect its storage conditions and shelf life.

1. Measure out 90% of the initial required volume of water. Water temperature should be +15°C/+25 °C.
2. While gently stirring the water, add the powder media. Stir until dissolved. Do not heat.
3. Rinse original package with a small amount of water to remove all traces of powder. Add to solution in step 2.
4. Supplement the media according to your needs. For Sodium Bicarbonate and L-Glutamine supplementation see pages 72-74.
5. While stirring, adjust the pH of the medium to 0.1 – 0.3 pH units below the desired pH since it may rise during filtration. The use of 1N HCl or 1N NaOH is recommended.
6. Add additional water to bring the solution to final volume.
7. Sterilize immediately by filtration using a membrane with a porosity of 0.22 µm or less.
8. Aseptically dispense medium into sterile container.

CELL CULTURE MEDIA

The Basal Medium Eagle (BME), developed by Harry Eagle, is one of the most widely used of all synthetic cell culture media. There are several "basal" culture media described by Eagle that vary slightly from one another. The Tissue Culture Association recommends using the name "Basal Medium Eagle" to describe only the formula developed to support HeLa cells. The Basal Medium Eagle, when properly completed, has demonstrated broad applicability for supporting single layer growth of a wide variety of normal and transformed cell lines. BME is the predecessor of Eagle Minimum Essential Medium (MEM) and Dulbecco Modified Eagle Medium (DMEM). This is the simplest of the basic media with all the essential components for cell growth. Basal Medium Eagle (BME) ideally favors cell lines such as HeLa, L-cells and primary mammalian fibroblasts.

BASAL MEDIUM EAGLE - BME

Basal Medium Eagle is principally used for diploid or primary cell cultures.

BME w/ Earle's Salts w/o L-Glutamine

		Liquid	+2°C/+8°C	24 months	Composition page 75
L0042 - 500	500 ml				

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request.**

CMRL 1066

CMRL 1066 media was originally developed by Connaught Medical Research Laboratories for the growth of Earle's "L" cells under serum-free conditions. CMRL 1066 media is also especially useful for cloning monkey kidney cells and for the growth of many other mammalian cell lines when supplemented with horse or calf serum.

CMRL 1066 w/ L-Glutamine w/o Sodium Bicarbonate

		Powder	+2°C/+8°C	24 months	Composition page 76
P0058 - N1L	For 1 L				
P0058 - N10L	For 10 L				

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request.**

DULBECCO'S MODIFIED EAGLE MEDIUM - DMEM

The DMEM media is a modification of the BME which contains a higher concentration of amino acids, vitamins and other additives. DMEM is for supporting and maintaining a large range of mammalian cell types. There are two types of DMEM: one with a high glucose content (4.5 g/L), and the other with a low glucose content (1.0 g/L). The DMEM low glucose has been developed for the culture of mouse embryonic cells.

DMEM High Glucose

DMEM High Glucose w/o L-Glutamine w/ 25 mM Hepes w/o Sodium Pyruvate

		Liquid	+2°C/+8°C	24 months	Composition page 77
L0100 - 500	500 ml				

DMEM High Glucose w/o L-Glutamine w/o Sodium Pyruvate

		Liquid	+2°C/+8°C	24 months	Composition page 77
L0101 - 500	500 ml				

DMEM High Glucose w/ L-Glutamine w/o Sodium Pyruvate

		Liquid	+2°C/+8°C	12 months	Composition page 77
L0102 - 500	500 ml				

DMEM High Glucose w/ Stable Glutamine w/ Sodium Pyruvate

		Liquid	+2°C/+8°C	24 months	Composition page 77
L0103 - 500	500 ml				

DMEM High Glucose w/ L-Glutamine w/ Sodium Pyruvate

		Liquid	+2°C/+8°C	12 months	Composition page 77
L0104 - 500	500 ml				

DMEM High Glucose w/o L-Glutamine w/ Sodium Pyruvate

		Liquid	+2°C/+8°C	24 months	Composition page 77
L0106 - 500	500 ml				

DMEM High Glucose w/ Stable Glutamine w/ 25 mM Hepes w/o Sodium Pyruvate

		Liquid	+2°C/+8°C	24 months	Composition page 77
L0107 - 500	500 ml				

DMEM High Glucose w/ L-Glutamine w/o Sodium Bicarbonate w/ Sodium Pyruvate

		Powder	+2°C/+8°C	36 months	Composition page 77
P0102 - N1L	For 1 L				
P0102 - N10L	For 10 L				

DMEM High Glucose w/ L-Glutamine w/o Sodium Bicarbonate w/o Sodium Pyruvate

		Powder	+2°C/+8°C	36 months	Composition page 77
P0103 - N1L	For 1 L				
P0103 - N10L	For 10 L				

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request.**

DMEM Low Glucose

DMEM Low Glucose w/ L-Glutamine w/ Sodium Pyruvate

		Liquid	+2°C/+8°C	12 months	Composition page 78
L0060 - 500	500 ml				

DMEM Low Glucose w/o L-Glutamine w/ Sodium Pyruvate

		Liquid	+2°C/+8°C	24 months	Composition page 78
L0064 - 500	500 ml				

DMEM Low Glucose w/ L-Glutamine w/ Sodium Pyruvate w/ 25 mM Hepes

		Liquid	+2°C/+8°C	12 months	Composition page 78
L0065 - 500	500 ml				

DMEM Low Glucose w/ Stable Glutamine w/ Sodium Pyruvate

		Liquid	+2°C/+8°C	24 months	Composition page 78
L0066 - 500	500 ml				

DMEM Low Glucose w/ L-Glutamine w/o Sodium Bicarbonate w/ Sodium Pyruvate

		Powder	+2°C/+8°C	36 months	Composition page 78
P0061 - N1L	For 1 L				
P0061 - N10L	For 10 L				

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request.**

DMEM - Ham's F12

Developed initially to study hormonal requirements of cells in culture, DMEM-Ham's F12, also called DMEM F12, is used as basal medium for growing many different mammalian cells (MDCK, fibroblasts, endothelial cells). DMEM – Ham's F12 is a mixture (1:1) of DMEM and Ham's F12 media.

DMEM - F12 w/o L-Glutamine w/o Hepes

		Liquid	+2°C/+8°C	12 months	Composition page 79/80
L0090 - 500	500 ml				

DMEM - F12 w/o L-Glutamine w/o Hepes w/o Glucose

		Liquid	+2°C/+8°C	12 months	Composition page 79/80
L0091 - 500	500 ml				

DMEM - F12 w/ Stable Glutamine w/ 15 mM Hepes

		Liquid	+2°C/+8°C	12 months	Composition page 79/80
L0092 - 500	500 ml				

DMEM - F12 w/ L-Glutamine w/ 15 mM Hepes

		Liquid	+2°C/+8°C	12 months	Composition page 79/80
L0093 - 500	500 ml				

DMEM - F12 w/o L-Glutamine w/ 15 mM Hepes

		Liquid	+2°C/+8°C	12 months	Composition page 79/80
L0094 - 500	500 ml				

DMEM - F12 w/ L-Glutamine w/ 25 mM Hepes

		Liquid	+2°C/+8°C	12 months	Composition page 79/80
L0095 - 500	500 ml				

DMEM - F12 w/o L-Glutamine w/ 25 mM Hepes

		Liquid	+2°C/+8°C	12 months	Composition page 79/80
L0096 - 500	500 ml				

DMEM - F12 w/ L-Glutamine w/o Sodium Bicarbonate w/ 15 mM Hepes

		Powder	+2°C/+8°C	36 months	Composition page 79/80
P0095 - N1L	For 1 L				
P0095 - N10L	For 10 L				

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request**

GLASGOW MEM BHK 21

Glascow Minimum Essential Medium was originally developed by Ian MacPherson and Michael Stoker as a modification of Eagle's medium (BME). The modifications included adding 10% Tryptose Phosphate and twice the normal concentration of amino acids and vitamins.
This media was used to study the genetic factors affecting cell competence.

GMEM BHK 21 w/ L-Glutamine w/o Tryptose Phosphate Broth

		Liquid	+2°C/+8°C	12 months	Composition page 81
L0221 - 500	500 ml				

GMEM BHK 21 w/ L-Glutamine w/o Sodium Bicarbonate w/o Tryptose Phosphate Broth

		Powder	+2°C/+8°C	36 months	Composition page 81
P0120 - N1L	For 1 L				
P0120 - N10L	For 10 L				

- **Glasgow MEM media are only available with a minimum order quantity of 20 bottles x 500 ml.**
- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request.**

HAM'S F10

Ham's F10 is used to support the growth of Chinese Hamster Ovary cells under serum free conditions and other mammalian cell types with serum supplementation. It is a popular medium for growth of sentitive cell lines.

Ham's F10 w/ L-Glutamine w/ 25 mM Hepes

		Liquid	+2°C/+8°C	12 months	Composition page 82
L0130 - 500	500 ml				

Ham's F10 w/ L-Glutamine

		Liquid	+2°C/+8°C	12 months	Composition page 82
L0140 - 500	500 ml				

Ham's F10 w/o L-Glutamine

		Liquid	+2°C/+8°C	24 months	Composition page 82
L0145 - 500	500 ml				

Ham's F10 w/ L-Glutamine w/o Sodium Bicarbonate

		Powder	+2°C/+8°C	36 months	Composition page 82
P0146 - N1L	For 1 L				
P0146 - N10L	For 10 L				

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request.**

HAM'S F12

Ham's F12 was originally developed for the serum-free clonal growth of Chinese Hamster Ovary (CHO) cells, lung cells and mouse L-cells. It is the media of choice for supporting the growth of cells of rodent origin (particularly rabbit and rat) and has proved to be an excellent cloning medium for the culture of myeloma and hybrid cells (hybridomas).

Ham's F12 w/ L-Glutamine

L0135 - 500	500 ml	Liquid	+2°C/+8°C	12 months	Composition page 83

Ham's F12 w/o L-Glutamine

L0136 - 500	500 ml	Liquid	+2°C/+8°C	24 months	Composition page 83

Ham's F12 w/ L-Glutamine w/o Sodium Bicarbonate

P0134 - N1L	For 1 L	Powder	+2°C/+8°C	36 months	Composition page 83
P0134 - N10L	For 10 L				

- Other packagings available on request.
- For your special formulation, please contact us, we can make your custom-made media on request.

ISCOVE'S MODIFIED DULBECCO'S MEDIUM - IMDM

Iscoves media are enriched modifications of DMEM containing sodium selenite. They are excellent for rapidly proliferating high-density cell cultures. The addition of BSA, purified human transferring and soybean lecithin creates a serum free condition ideal for supporting B and T lymphocytes. IMDM was the first media utilizing HEPES buffer. Other cell types can be cultured using this media under serum free or reduced serum conditions.

IMDM w/ L-Glutamine w/ 25 mM Hepes

L0190 - 500	500 ml	Liquid	+2°C/+8°C	12 months	Composition page 84

IMDM w/ Stable Glutamine w/ 25 mM Hepes

L0191 - 500	500 ml	Liquid	+2°C/+8°C	24 months	Composition page 84

IMDM w/o L-Glutamine w/o Hepes

L0192 - 500	500 ml	Liquid	+2°C/+8°C	24 months	Composition page 84

IMDM w/ L-Glutamine w/o Sodium Bicarbonate w/ 25 mM Hepes

P0191 - N1L	For 1 L	Powder	+2°C/+8°C	36 months	Composition page 84
P0191 - N10L	For 10 L				

IMDM w/ L-Glutamine w/ 25 mM Hepes w/o Phenol Red

P0192 - N1L	For 1 L	Powder	+2°C/+8°C	36 months	Composition page 84
P0192 - N10L	For 10 L				

- Other packagings available on request.
- For your special formulation, please contact us, we can make your custom-made media on request.

LEIBOVITZ L-15 MEDIUM

The Leibovitz L-15 media were formulated to promote the cell growth in medium not balanced in CO_2. The formulations were developed with the sodium bicarbonate buffer. The Leibovitz L-15 media are buffered by a complement of salts, free base amino acids and galactose, so they can be used under conditions of free gaseous exchange with the atmosphere. When properly supplemented, L-15 Medium supports established cell lines, such as HEp-2 and LLC-MK2, as well as primary explants of embryonic and adult human.

Leibovitz L15 Medium w/o L-Glutamine

L0300 - 500	500 ml	Liquid	+2°C/+8°C	24 months	Composition page 85

Leibovitz L15 Medium w/L-Glutamine

P0350 - N1L P0350 - N10L	For 1 L For 10 L	Powder	+2°C/+8°C	36 months	Composition page 85

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request.**

MC COY'S 5A MEDIUM

Mc Coy's 5A media were originally formulated for growth and support of lymphocytes. This final modification produced a medium identical to RPMI 1629. McCoy's 5A media support the indefinite proliferation of Walker 256 carcinoma cells. In addition, it is excellent for the propagation of leukocytes, biopsy tissues, a broad range of human and rat normal or transformed cell types, the most current primary and continuous cell lines.

McCoy's 5A w/ L-Glutamine

L0210 - 500	500 ml	Liquid	+2°C/+8°C	12 months	Composition page 86

McCoy's 5A w/o L-Glutamine

L0211 - 500	500 ml	Liquid	+2°C/+8°C	12 months	Composition page 86

McCoy's 5A w/ L-Glutamine w/o Sodium Bicarbonate

P0390 - N1L P0390 - N10L	For 1 L For 10 L	Powder	+2°C/+8°C	36 months	Composition page 86

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request.**

MEDIUM 199

This complex medium was developed specifically for nutritional research of chicken fibroblasts.
Today, media 199 media are widely used for the maintenance of non-transformed cells, vaccine and virus production and primary explants of epithelial cells.
The media can be formulated either with Earle's Salts or Hanks' Salts. The media formulated with the Earle's Salts are buffered with a bicarbonate / carbonic acid solution and retain their pH in a CO2 incubator. The use of the Earle's Salts under ambient conditions results in a rapid rise in the pH of the culture medium.
The media formulated with the Hanks' Salts are buffered with saline solutions designed for balancing in ambient conditions, and their use in a CO2 incubator results in a rapid drop in the pH of the culture medium.

Medium 199 w/ Hanks' Salts w/ L-Glutamine

L0330 - 500	500 ml	Liquid	+2°C/+8°C	18 months	Composition page 87/88

Medium 199 w/ Earle's Mod. Salts w/ L-Glutamine w/ 1.25 g/L Sodium Bicarbonate

L0355 - 500	500 ml	Liquid	+2°C/+8°C	18 months	Composition page 87/88

Medium 199 w/ Earle's Salts w/o L-Glutamine

L0356 - 500	500 ml	Liquid	+2°C/+8°C	24 months	Composition page 87/88

Medium 199 w/ Earle's Salts w/ Stable Glutamine w/ 25 mM Hepes

L0361 - 500	500 ml	Liquid	+2°C/+8°C	24 months	Composition page 87/88

Medium 199 modified w/ Hanks' Salts w/o L-Glutamine w/o Sodium Bicarbonate

P0410 - N1L P0410 - N10L	For 1 L For 10 L	Powder	+2°C/+8°C	36 months	Composition page 87/88

Medium 199 w/ Earle's Salts w/ L-Glutamine w/o Sodium Bicarbonate

P0420 - N1L P0420 - N10L	For 1 L For 10 L	Powder	+2°C/+8°C	36 months	Composition page 87/88

Medium 199 w/ Earle's Salts w/ L-Glutamine w/o Sodium Bicarbonate w/ 25 mM Hepes

P0425 - N1L P0425 - N10L	For 1 L For 10 L	Powder	+2°C/+8°C	36 months	Composition page 87/88

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request.**

MINIMUM ESSENTIAL MEDIUM - MEM

A modification of BME featuring increased amino acid levels to more closely resemble the protein content of human cells. MEM serves as a general-use medium, ideal for the growth and maintenance of a wide range of mammalian cell types. MEM is often used to support anchorage-dependent cells, however modified solutions can be used to support other cell types including calcium-free MEM for suspension cultures and MEM with Hanks' salts for diploid cells.

MEM w/ Earle's Salts

Minimum Essential Medium (MEM) with Earle's Balanced Salts is a modification of Eagle's earlier Basal Medium (BME) which contains a higher concentration of essential nutrients. These media promote the growth of a variety of normal and transformed cells. Since they contain Earle's Balanced Salts, they are suitable for use in atmospheres charged with CO_2 gas.

MEM w/ Earle's Salts w/ L-Glutamine

		Liquid	+2°C/+8°C	12 months	Composition page 89
L0415 - 500	500 ml				

MEM w/ Earle's Salts w/ Stable Glutamine

		Liquid	+2°C/+8°C	24 months	Composition page 89
L0416 - 500	500 ml				

MEM w/ Earle's Salts w/o L-Glutamine w/ NEAA

		Liquid	+2°C/+8°C	24 months	Composition page 89
L0430 - 500	500 ml				

MEM w/ Earle's Salts w/o L-Glutamine

		Liquid	+2°C/+8°C	24 months	Composition page 89
L0440 - 500	500 ml				

MEM w/ Earle's Salts w/ L-Glutamine w/ 25 mM Hepes

		Liquid	+2°C/+8°C	12 months	Composition page 89
L0444 - 500	500 ml				

MEM w/ Earle's Salts w/o L-Glutamine w/ 25 mM Hepes

		Liquid	+2°C/+8°C	24 months	Composition page 89
L0445 - 500	500 ml				

MEM w/ Earle's Salts w/ L-Glutamine w/ NEAA w/o Sodium Bicarbonate

		Powder	+2°C/+8°C	36 months	Composition page 89
P0450 - N1L	For 1 L				
P0450 - N10L	For 10 L				

MEM w/ Earle's Salts w/ L-Glutamine w/o NEAA w/o Sodium Bicarbonate

		Powder	+2°C/+8°C	36 months	Composition page 89
P0451 - N1L	For 1 L				
P0451 - N10L	For 10 L				

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request.**

MEM w/ Hanks' Salts

Minimum Essential Medium (MEM) is a modification of Eagle's earlier medium Basal Medium Eagle (BME). This MEM w/ Hanks' Salts formulation contains Hank's salts for use without CO_2.

MEM w/ Hanks' Salts Solution w/o L-Glutamine

		Liquid	+2°C/+8°C	24 months	Composition page 90
L0465 - 500	500 ml				

MEM w/ Hanks' Salts w/o L-Glutamine w/ 25 mM Hepes

		Liquid	+2°C/+8°C	24 months	Composition page 90
L0470 - 500	500 ml				

MEM w/ Hanks' Salts w/ L-Glutamine w/ NEAA w/o Sodium Bicarbonate

		Powder	+2°C/+8°C	36 months	Composition page 90
P0515 - N1L	For 1 L				
P0515 - N10L	For 10 L				

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request.**

MEM Alpha Modification

MEM Alpha is a modification of Minimum Essential Medium (MEM) that contains non-essential amino acids, sodium pyruvate, thioctic acid, vitamin B12, biotin, and ascorbic acid. MEM Alpha - Modification can be used with a variety of suspension and adherent mammalian cells, including keratinocytes, primary rat astrocytes, and human melanoma cells.

MEM Alpha w/ L-Glutamine w/o Ribonucleosides w/o Deoxyribonucleosides

L0475 - 500	500 ml	Liquid	+2°C/+8°C	12 months	Composition page 91

MEM Alpha w/o L-Glutamine w/o Ribonucleosides w/o Deoxyribonucleosides

L0476 - 500	500 ml	Liquid	+2°C/+8°C	24 months	Composition page 91

MEM Alpha Modification w/ Earle's Salts w/ L-Glutamine w/o Sodium Bicarbonate

P0440 - N1L	For 1 L	Powder	+2°C/+8°C	36 months	Composition page 91
P0440 - N10L	For 10 L				

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request.**

SCHNEIDER'S DROSOPHILA MEDIUM

Schneider's Insect medium was developed to support the growth of excised Imaginal Discs from the fruit fly, Drosophila melanogaster. When supplemented with 5 - 20% heat-inactivated fetal bovine serum, Schneider's medium has been found to support the rapid growth of both primary and established cultures of cells derived from Drosophila spp. and several other dipterans.

Schneider's Drosophila Medium

L0207 - 500	500 ml	Liquid	+2°C/+8°C	12 months	Composition page 94

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request.**

RPMI 1640 MEDIUM

RPMI are general purpose enriched media with extensive applications for a broad spectrum of mammalian and hybridoma cells, including human myeloma, mouse hybridoma, human leukocytes, and B and T lymphocytes. It was originally formulated for suspension cultures and monolayer culture of human leukemia cells.

RPMI 1640 w/o L-Glutamine w/ 25 mM Hepes

L0490 - 500	500 ml	Liquid	+2°C/+8°C	24 months	Composition page 92

RPMI 1640 Dutch Modification w/o L-Glutamine w/ 1 g/L Sodium Bicarbonate w/ 20 mM Hepes

L0492 - 500	500 ml	Liquid	+2°C/+8°C	24 months	Composition page 92

RPMI 1640 w/ L-Glutamine w/ 25 mM Hepes

L0495 - 500	500 ml	Liquid	+2°C/+8°C	12 months	Composition page 92

RPMI 1640 w/ Stable Glutamine w/ 25 mM Hepes

L0496 - 500	500 ml	Liquid	+2°C/+8°C	24 months	Composition page 92

RPMI 1640 w/ Stable Glutamine

L0498 - 500	500 ml	Liquid	+2°C/+8°C	24 months	Composition page 92

RPMI 1640 w/ L-Glutamine

L0500 - 500	500 ml	Liquid	+2°C/+8°C	12 months	Composition page 92

RPMI 1640 w/o L-Glutamine

L0501 - 500	500 ml	Liquid	+2°C/+8°C	24 months	Composition page 92

RPMI 1640 w/o L-Glutamine w/o Folic Acid

L0503 - 500	500 ml	Liquid	+2°C/+8°C	24 months	Composition page 92

RPMI 1640 w/o L-Glutamine w/o Phenol Red

L0505 - 500	500 ml	Liquid	+2°C/+8°C	24 months	Composition page 93

RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate

P0860 - N1L	For 1 L	Powder	+2°C/+8°C	24 months	Composition page 93
P0860 - N10L	For 10 L				

RPMI 1640 w/o L-Glutamine w/o Sodium Bicarbonate

P0870 - N1L	For 1 L	Powder	+2°C/+8°C	24 months	Composition page 93
P0870 - N10L	For 10 L				

RPMI 1640 w/o L-Glutamine w/o Sodium Bicarbonate w/o Phenol Red

P0871 - N1L	For 1 L	Powder	+2°C/+8°C	24 months	Composition page 93
P0871 - N10L	For 10 L				

RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate w/ 25 mM Hepes w/o Phenol Red

P0876 - N1L	For 1 L	Powder	+2°C/+8°C	24 months	Composition page 93
P0876 - N10L	For 10 L				

RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate w/o Phenol Red

P0880 - N1L	For 1 L	Powder	+2°C/+8°C	24 months	Composition page 93
P0880 - N10L	For 10 L				

RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate w/o Glucose

P0883 - N1L	For 1 L	Powder	+2°C/+8°C	24 months	Composition page 93
P0883 - N10L	For 10 L				

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request.**

CELL CULTURE SUPPLEMENTS

AMINO ACIDS AND VITAMINS

To enrich your basal medium, incorporate amino acids, vitamins, or non-essential amino acids, achieving a final concentration of 1X. This enriched medium can then be used similarly to traditional medium.

MEM Vitamins 100X w/o L-Glutamine

X0556 - 100	100 ml	Frozen	-20°C	24 months	Composition page 89

MEM non Essential Amino Acids 100X w/o L-Glutamine

X0557 - 100	100 ml	Liquid	+2°C/+8°C	24 months	Composition page 89

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request.**
- **For specific vitamins and amino acids, please inquire availability packagings and prices.**

D-GLUCOSE MONOHYDRATE DEXTROSE, CELL CULTURE TESTED

D-Glucose Monohydrate is a common natural sugar involved in processes, such as energy production, glycosylation, and formation of glycans that provide structure to cells. It is involved in a detrimental process in cells called glycation. It is used as a supplement for cell culture and in numerous cellular processes.

D-Glucose Monohydrate (Dextrose), cell culture tested

P5030 - 500GR	500 g	Powder	Room temp.	48 months
P5030 - 1KG	1 kg			

GLUTAMINE

L-Glutamine is an essential amino acid required by virtually all mammalian and insect cells grown in culture. It is a crucial component of many cell culture media and serves as a major energy source for cells in culture. L-Glutamine is very stable as a dry powder and as a frozen solution.
However, in liquid media or stock solutions, L-Glutamine can degrade relatively rapidly. L-Glutamine is also more labile in cell culture solution than other amino acids.
Dipeptide derivatives of L-Glutamine (Stable Glutamine) prevent the intramolecular cyclization reaction associated with solutions of L-Glutamine. These derivatives are therefore stable in solution and allow the formulation of cell culture media containing L-Glutamine that may be stored at 4°C for extended periods. Solutions containing these derivatives can be even autoclaved without appreciable degradation of the product (30 minutes at 121°C results in < 5% loss of the product).

The dipeptide derivatives are metabolized within the cells to yield L-Glutamine. This results in more consistent delivery of L-Glutamine to your cells and avoids toxic build-up of ammonia in your cell cultures. This feature can be especially important for ammonia-sensitive cell lines.

L-Glutamine 100X, 200 mM

X0550 - 100	100 ml	Frozen	-20°C	24 months

Glutamine stable 100X, 200 mM

X0551 - 100	100 ml	Frozen	Room temp.	24 months

L-Glutamine

P1012 - 100GR	100 g	Powder	Room temp.	24 months
P1012 - 1KG	1 kg			

L-Alanyl-L-Glutamine, Stable Glutamine

P1031 - 100GR	100 g	Powder	Room temp.	36 months

Other packagings available on request.

SALT SOLUTIONS, SALTS/BUFFERS

LEGEND

State

- Liquid
- Powder
- Frozen

Storage condition

- Temperature
- Shelf life, in months
- Composition

CHAPTER SUMMARY

ABOUT SALT SOLUTIONS & SALTS / BUFFERS

The irrigating buffers and salt solutions are sterile, physiologically balanced solutions intended for use in the maintenance of mammalian cells. A chemically defined, balanced salt solution provides an environment that will maintain the structural and physiological integrity of cells *in vitro*. The buffers and solutions are used in the first steps of preparing parts of organs and during the dissociation process or for isolation of cell suspensions.

Further applications are the intermediate steps for the cultivation of cells like washing, centrifugation, suspending and counting, as well as many analytical methods or biochemical treatments. For the most part, these solutions should be used to maintain the cells only for minutes or, at the most, a few hours in suspension.

These buffers and solutions are not cell culture media. They are made up of a phosphate buffer system, sodium chloride to adjust the osmolality, and in some cases sugar for short-time nutrition and stabilisation of morphology. For applications where Ca^{2+} and Mg^{2+} ions interfere with enzyme activity e.g. Trypsin, use the modified buffers w/o Calcium w/o Magnesium.

DULBECCO'S PHOSPHATE BUFFERED SALINE - DPBS

DPBS is commonly used in cell counting as a diluent, for rinsing cells and as a buffer in many chromatographic procedures. DPBS is also used to wash and resuspend cells during the dissociation process.

DPBS w/o Calcium w/o Magnesium

L0615 - 100	100 ml	Liquid	Room temp.	48 months	Composition page 95
L0615 - 500	500 ml				
L0615 - 1000	1000 ml				

DPBS w/o Calcium w/o Magnesium (sterile)

L0615 - C10LS	10 L	Liquid	Room temp.	48 months	Composition page 95

DPBS 10X w/o Calcium w/o Magnesium

X0515 - 100	100 ml	Liquid	Room temp.	48 months	Composition page 95
X0515 - 500	500 ml				

DPBS 10X w/ Calcium w/ Magnesium

X0520 - 500	500 ml	Liquid	Room temp.	48 months	Composition page 95

DPBS w/o Calcium w/o Magnesium

P0750 - N1L	For 1 L	Powder	Room temp.	48 months	Composition page 95
P0750 - N10L	For 10 L				

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request.**

PHOSPHATE BUFFERED SALINE - PBS

Phosphate-Buffered Saline (PBS) is a buffer solution used in biological research. It is a waterbased salt solution containing Sodium Phosphate, Sodium Chloride and Potassium Phosphate. The osmolality and ion concentrations of the solutions are non-toxic to most cells.

PBS is used in cell enumeration as a diluent, for rinsing cells and as a buffer in many biochemical/cellular assays. PBS is also used to wash and resuspend cells during the dissociation process. This product contains neither calcium nor magnesium ions in its composition.

PBS w/o Calcium w/o Magnesium w/o Potassium Chloride

		Liquid	Room temp.	48 months	Composition page 97
L0616 - 500	500 ml				

HANKS' BALANCED SALTS SOLUTIONS - HBSS

Hanks' Balanced Salts Solutions (HBSS) are designed for short term use under ambient atmospheric conditions - not for CO_2 incubation.

HBSS w/o Calcium w/o Magnesium w/o Sodium Bicarbonate w/o Phenol Red

		Liquid	Room temp.	48 months	Composition page 95
L0605 - 500	500 ml				

HBSS w/ Calcium w/ Magnesium w/ Sodium Bicarbonate w/ Phenol Red

		Liquid	Room temp.	48 months	Composition page 95
L0606 - 500	500 ml				

HBSS w/o Calcium w/o Magnesium w/ Sodium Bicarbonate w/o Phenol Red

		Liquid	Room temp.	48 months	Composition page 95
L0607 - 500	500 ml				

HBSS w/o Calcium w/o Magnesium w/ Sodium Bicarbonate w/ Phenol Red

		Liquid	Room temp.	48 months	Composition page 95
L0611 - 500	500 ml				

HBSS w/ Calcium w/ Magnesium w/ Sodium Bicarbonate w/o Phenol Red

		Liquid	Room temp.	48 months	Composition page 95
L0612 - 500	500 ml				

HBSS 10X w/o Calcium w/o Magnesium w/o Sodium Bicarbonate w/o Phenol Red

		Liquid	Room temp.	48 months	Composition page 95
X0507 - 500	500 ml				

HBSS 10X w/ Calcium w/ Magnesium w/o Sodium Bicarbonate w/ Phenol Red

		Liquid	Room temp.	48 months	Composition page 95
X0509 - 500	500 ml				

HBSS 10X w/o Calcium w/o Magnesium w/ Sodium Bicarbonate w/o Phenol Red

		Liquid	Room temp.	48 months	Composition page 95
X0510 - 500	500 ml				

HBSS 10X w/o Calcium w/o Magnesium w/o Sodium Bicarbonate w/ Phenol Red

		Liquid	Room temp.	48 months	Composition page 95
X0513 - 500	500 ml				

HBSS w/o Calcium w/o Magnesium w/o Sodium Bicarbonate w/o Phenol Red

		Powder	Room temp.	48 months	Composition page 95
P0153 - N1L	For 1 L				
P0153 - N10L	For 10 L				

HBSS w/ Calcium w/ Magnesium w/o Sodium Bicarbonate w/ Phenol Red

		Powder	Room temp.	48 months	Composition page 95
P0154 - N1L	For 1 L				
P0154 - N10L	For 10 L				

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request.**

EARLE'S BALANCED SALTS SOLUTIONS - EBSS

Earle's Balanced Salts Solutions (EBSS) are designed for short-term use in a CO_2 environment.

EBSS w/o Calcium w/o Magnesium

		Liquid	Room temp.	48 months	Composition page 95
L0601 - 500	500 ml				

EBSS 10X w/ Calcium w/ Magnesium w/o Sodium Bicarbonate

		Liquid	Room temp.	48 months	Composition page 95
X0112 - 500	500 ml				

EBSS 10X w/o Calcium w/o Magnesium w/o Sodium Bicarbonate

		Liquid	Room temp.	48 months	Composition page 95
X0113 - 500	500 ml				

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request.**

HEPES

HEPES is used in many media because it has more buffering capacity than sodium bicarbonate at physiological pH (7.2 - 7.4) at 37°C. Sodium bicarbonate is nutritionally necessary for most cells, so HEPES should be added in addition to, not in place of, sodium bicarbonate. It is commonly added at 10 – 25 mM concentrations (higher levels may cause cytotoxicity).

HEPES Buffer 1 M

		Liquid	+2°C/+8°C	36 months	Composition page 96
L0180 - 100	100 ml				
L0180 - 500	500 ml				

HEPES, cell culture tested

		Powder	Room temp.	36 months
P5455 - 100GR	100 g			
P5455 - 500GR	500 g			
P5455 - 1KG	1 kg			

- **Other packagings available on request.**

OTHER SALT SOLUTIONS & SALTS

Sodium Chloride Salt Solution 0.85%

		Liquid	Room temp.	48 months	Composition page 96
L0640 - 500	500 ml				

Sodium Pyruvate 100 mM

		Liquid	+2°C/+8°C	48 months	Composition page 96
L0642 - 100	100 ml				
L0642 - 500	500 ml				

Potassium Chloride 0.075 M

		Liquid	Room temp.	48 months	Composition page 96
L0643 - 100	100 ml				
L0643 - 500	500 ml				

Sodium Bicarbonate 7.5%

		Liquid	+2°C/+8°C	24 months	Composition page 96
L0680 - 100	100 ml				

Potassium Chloride

		Powder	Room temp.	36 months
P2035 - 500GR	500 g			

Sodium Bicarbonate, cell culture tested

		Powder	Room temp.	48 months
P2060 - 500GR	500 g			

Sodium Chloride (for dilution 9 g/L)

		Powder	Room temp.	48 months
P2064 - N5L	For 5 L			

Sodium Chloride

P2066 - 1KG	1 kg	Powder	Room temp.	36 months

Phenol Red Sodium Salt

P5648 - 10GR	10 g	Powder	Room temp.	48 months

- **Other salts available on request.**
- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made media on request.**

CELL CULTURE WATER

Cell Culture Water is suitable to dissolve dry powder cell culture media in accordance to the technical data sheet. Sterility tests include aerobic and anaerobic bacteriological flora, fungi and yeast. The endotoxin level is less than 0.005 EU/mL

Cell Culture Water Pyrogen free

L0970 - 100	100 ml	Liquid	Room temp.	48 months
L0970 - 500	500 ml			
L0970 - 1000	1000 ml			

ANTIBIOTICS

LEGEND

State

- Liquid
- Powder
- Frozen

Storage condition

- Temperature
- Shelf life, in months
- Composition

ANTIBIOTICS

The use of antibiotics is a helpful tool in the cell culture field or where fluids have to be conserved and free from bacterial contamination. Most antibiotics suppress the growth of micro-organisms by blocking an anabolic pathway.
Nanomycopulitine® actively kills bacteria, including mycoplasma, in all three stages of development without interfering with the eukaryotic metabolism.

Amphotericin B 100X

L0009 - 050	50 ml	Frozen	-20°C	24 months	Composition page 97
L0009 - 100	100 ml				

Amphotericin B

P4030 - 250MG	250 mg	Powder	+2°C/+8°C	24 months

Antibiotic-Antimycotic 100X

L0010 - 020	20 ml	Frozen	-20°C	24 months	Composition page 97
L0010 - 100	100 ml				

G-418 (Geneticin) Solution

L0015 - 020	20 ml	Frozen	-20°C	24 months	Composition page 97
L0015 - 100	100 ml				

G-418 Sulfate

P0017 - 10GR	10 g	Powder	+2°C/+8°C	36 months

Gentamicin Sulfate

P4020 - 1GR	1 g	Powder	+2°C/+8°C	48 months
P4020 - 5GR	5 g			

Gentamicin Sulfate 10 mg/ml

L0011 - 010	10 ml	Frozen	-20°C	24 months	Composition page 97
L0011 - 100	100 ml				

Gentamicin Sulfate 50 mg/ml

L0012 - 010	10 ml	Frozen	-20°C	24 months	Composition page 97
L0012 - 100	100 ml				

Glutamine-Penicillin-Streptomycin 100X

L0014 - 100	100 ml	Frozen	-20°C	24 months	Composition page 97

Nanomycopulitine® Concentrat 20X

L-X16 - 010	10 ml	Frozen	-20°C	24 months
L-X16 - 100	100 ml			

Penicillin G Sodium Salt - 1 Million Units

P0018 - 1MU	1 Million Units	Powder	+2°C/+8°C	36 months

Penicillin-Streptomycin

L0018 - 100	100 ml	Frozen	-20°C	24 months	Composition page 97

Penicillin-Streptomycin Solution 100X

L0022 - 020	20 ml	Frozen	-20°C	18 months	Composition page 97
L0022 - 100	100 ml				

- **Other Antibiotics and packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made Antibiotics on request.**

CELL SEPARATION & CELL DISSOCIATION REAGENTS

LEGEND

State

- Liquid
- Powder
- Frozen

Storage condition

- Temperature
- Shelf life, in months
- Composition

CHAPTER SUMMARY

LYMPHOSEP

Lymphosep is a standardized and high-quality gradient density solution, designed for a simple and rapid isolation of mononuclear cells from human whole blood.

Lymphosep, Lymphocyte Separation Media CE IVD

L0560 - 100 L0560 - 500	100 ml 500 ml	Liquid	Room temp.	24 months

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made cell separation on request.**

ACCUTASE®

Accutase® is a ready to use cell detachment solution developed to meet the most demanding requirements for a gentle and effective detachment of adherent cells. It can be used as a direct replacement for Trypsin, but has several advantages due to the more gentle detachment of the cells.

Features:

- **Gentle & effective cell detachment.**
- **Protection of surface epitopes for e.g. subsequent flow cytometry analysis.**
- **Maximum protection for sensitive cell culture: primary, neuronal or stem cells.**
- **No neutralization required.**
- **No aliquotation needed, stable in the refrigerator for two months after thawing.**

Accutase® combines proteolytic and collagenolytic enzyme activity. As it is non-mammalian and non-bacterial origin, it is an excellent choice for serum free cell cultures. Accutase® can be used for the whole range of adherent cells. For a list of tested cell lines please visit: www.biowest.net

It can also be used on suspension cells to reduce clumping in preparation for counting.

Accutase®

L0950 - 100	100 ml	Frozen	-20°C	24 months

- **Other packagings available on request.**

VERSENE

Versene, an EDTA solution, is a gentle non-enzymatic dissociation reagent, used instead of trypsin. It is a chelating agent that disperses the cells by cutting the cytoplasmic bridges between them.

It is less aggressive cells than trypsin, which is useful for studies on cell growth and phenotypes.

Versene

L0630 - 100	100 ml	Liquid	+2°C/+8°C	24 months	Composition page 96

TRYPSIN

Trypsin

Trypsin is a porcine pancreas-derived enzyme that is commonly used for the dissociation and disaggregation of "anchorage-dependent" mammalian cells and tissues.

The concentration of Trypsin, necessary to remove the cells from their substrate, depends on the sensitivity of the cells.

Biowest offers a broad variety of Trypsin to help you to select the best for your application.

Trypsin 0.25% in PBS w/o Calcium w/o Magnesium w/ Phenol Red

L0909 - 100	100 ml	Frozen	-20°C	24 months	Composition page 96

Trypsin 0.25% in PBS w/o Calcium w/o Magnesium w/o Phenol Red

L0910 - 100	100 ml	Frozen	-20°C	24 months	Composition page 96

Trypsin 0.25% - EDTA in HBSS w/o Calcium w/o Magnesium w/ Phenol Red

L0931 - 100 L0931 - 500	100 ml 500 ml	Frozen	-20°C	24 months	Composition page 96

Trypsin 0.25% - EDTA 0.02% in HBSS w/o Calcium w/o Magnesium w/ Phenol Red

L0932 - 100	100 ml	Frozen	-20°C	24 months	Composition page 96

Trypsin 2.5% in PBS w/o Calcium w/o Magnesium w/o Phenol Red

X0915 - 100	100 ml	Frozen	-20°C	24 months	Composition page 96

Trypsin 2.5% in HBSS w/o Calcium w/o Magnesium w/o Phenol Red

X0920 - 100	100 ml	Frozen	-20°C	24 months	Composition page 96

Trypsin-EDTA 1X in solution w/o Calcium w/o Magnesium w/ Phenol Red

L0930 - 100	100 ml	Frozen	-20°C	24 months	Composition page 96
L0930 - 500	500 ml				

Trypsin-EDTA 1X in solution w/o Calcium w/o Magnesium w/o Phenol Red

L0940 - 100	100 ml	Frozen	-20°C	24 months	Composition page 96
L0940 - 500	500 ml				

Trypsin – EDTA 10X in PBS w/o Calcium w/o Magnesium w/o Phenol Red

X0930 - 100	100 ml	Frozen	-20°C	24 months	Composition page 96

Trypsin - EDTA 1X Lyophilised w/ Sodium Chloride

P0940 - 100GR	100 g	Frozen	-20°C	24 months	Composition page 96

Trypsin 1:250 powder (porcine)

P5957 - 100GR	100 g	Frozen	-20°C	12 months	

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made cell separation on request.**

Recombinant Trypsin

Recombinant Trypsin is a genetically engineered protein expressed in E-Coli. As such it is totally animal free, free from contaminating enzymes like chymotrysin as well as protease inhibitors. It is highly stable with a high purity (95%). It is widely used in insulin manufacturing, vaccines and cell culture applications.

Recombinant Trypsin-EDTA 1X in PBS w/o Calcium w/o Magnesium w/o Phenol Red

L0941 - 100	100 ml	Frozen	-20°C	24 months	Composition page 98

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made cell separation on request.**

KARYOTYPING MEDIA & CYTOGENETIC REAGENTS

LEGEND

State

- Liquid
- Powder
- Frozen

Storage condition

- Temperature
- Shelf life, in months
- Composition

CHAPTER SUMMARY

ABOUT KARYOTYPING MEDIA & CYTOGENETIC REAGENTS

Biowest distributes products from the company Cytogen for karyotyping. It is a common method in human genetics to analyze chromosomes (metaphases) and detect abnormalities, such as trisomies and/or structural defects or other defects. The classical karyotyping has proven successful in all areas of genetics over the years, from prenatal and postnatal diagnostics to tumor cytogenetics. Karyotyping is not only important in the classification of tumors, but also in their follow-up occurrence.

KARYOTYPING MEDIA

CytogenAmnio Medium

CytogenAmnio Medium (AGM) is a ready-to-use medium, specifically formulated for primary human amniotic cells and chorionic villi culture. AGM is to be used for human karyotyping and other prenatal cytogenetic diagnostic.

CytogenAmnio Medium CE IVD

AGM - 100M	100 ml	Liquid	-20°C	18 months
AGM - 500M	500 ml			

CytogenLympho Medium

CytogenLympho Medium (LGM) is a ready to use medium that is specifically developed for the cultivation of primary human blood lymphocytes, which are used in karyotyping and other cytogenetic postnatal diagnostic procedures.

CytogenLympho Medium CE IVD

LGM - 100	100 ml	Liquid	-20°C	18 months

CytogenMarrow Medium

CytogenMarrow Medium (MGM) is a ready-to-use medium for the culture of hematopoietic cells from bone marrow and leukemic blood samples. MGM is used for karyotyping and other cytogenetic diagnostic procedures.

CytogenMarrow Medium CE IVD

MGM - 100	100 ml	Liquid	-20°C	18 months

CytogenPrena Medium

CytogenPrena Medium (PPM) is used for the cell cultivation from amniotic fluid cells, chorionic tissue and abort material. It is intended for the human samples in the *in vitro* diagnostics (IVD CE according to MPG*).

CytogenPrena Medium CE IVD				
PPM - 100	100 ml	Liquid	-20°C	18 months

*Medizinproduktegesetz = medical products law

CYTOGENETIC REAGENTS

Colcemid

Colcemid stops the division of cells in mitosis. It prevents the formation of the spindle apparatus responsible for cell division, thereby permitting an accumulation of metaphases.

Colcemid 10 µg/ml in PBS (Demecolcin)				
L0040 - 010	10 ml	Liquid	+2°C/+8°C	24 months
L0040 - 020	20 ml			
L0040 - 050	50 ml			

- **Other packagings available on request.**
- **For your special formulation, please contact us, we can make your custom-made product on request.**

Phytohaemagglutinin P - PHA-P

Phytohaemagglutinin is a lectin, extracted from red kidney beans, used for the stimulation of cell proliferation in lymphocyte culture. PHA-P also has a powerful erythroagglutinating property and it was originally used for separating leukocytes from whole blood.

Phytohaemagglutinin P - PHA-P				
L3020 - 005	5 ml	Frozen	-20°C	12 months

- **Other packagings available on request.**

TABLE FOR ADDITION OF SODIUM BICARBONATE

Cat N°	Description	Add° of Sodium Bicarbonate powder P2060	Add° of Sodium Bicarbonate powder L0680
	Cell Culture Media	g / L	ml / L
P0058	CMRL 1066 w/ L-Glutamine w/o Sodium Bicarbonate	2,2	29,3
P0061	DMEM Low Glucose w/ L-Glutamine w/o Sodium Bicarbonate w/ Sodium Pyruvate	3,7	49,3
P0095	DMEM F12 w/ L-Glutamine w/o Sodium Bicarbonate w/ 15 mM Hepes	1,2	16
P0102	DMEM High Glucose w/ L-Glutamine w/o Sodium Bicarbonate w/o Sodium Pyruvate	3,7	49,3
P0103	Glasgow MEM BHK 21 w/ L-Glutamine w/o Sodium Bicarbonate w/o Tryptose Phosphate Broth	3,7	49,3
P0120	Ham's F12 w/ L-Glutamine w/o Sodium Bicarbonate	2,75	36,7
P0134	Ham's F10 w/ L-Glutamine w/o Sodium Bicarbonate	1,176	15,7
P0146	IMDM w/ L- Glutamine w/o Sodium Bicarbonate w/ 25 mM Hepes	1,2	16
P0191	McCoy's 5A w/ L-Glutamine w/o Sodium Bicarbonate	3,024	40,3
P0390	Medium 199 w/ Hanks' Salts w/o L-Glutamine w/o Sodium Bicarbonate	2,2	29,3
P0410	Medium 199 w/ Earle's Salts w/ L-Glutamine w/o Sodium Bicarbonate	0,35	4,7
P0420	Medium 199 w/ Earles' Salts w/ L-Glutamine w/o Sodium Bicarbonate w/ 25mM Hepes	2,2	29,3
P0425	MEM Alpha Modification w/ Earle's Salts w/ L-Glutamine w/o Sodium Bicarbonate	2,2	29,3
P0440	MEM w/ Earle's Salts w/ L-Glutamine w/ NEAA w/o Sodium Bicarbonate	2,2	29,3
P0450	MEM w/ Earle's Salts w/ L-Glutamine w/o NEAA w/o Sodium Bicarbonate	2,2	29,3
P0451	MEM w/ Hanks' Salts w/ L-Glutamine w/ NEAA w/o Sodium Bicarbonate	0,35	4,7
P0515	RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate	2	26,7
P0860	RPMI 1640 w/o L-Glutamine w/o Sodium Bicarbonate	2	26,7
P0870	RPMI 1640 w/o L-Glutamine w/o Sodium Bicarbonate w/o Phenol Red	2	26,7
P0871	RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate w/25 mM Hepes w/o Phenol Red	2	26,7
P0876	RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate w/o Phenol Red	2	26,7
P0880	RPMI 1640 w/ L-Glutamine w/o Sodium Bicarbonate w/o Glucose	2	26,7
P0883			

Cat N°	Description	Add° of Sodium Bicarbonate powder P2060	Add° of Sodium Bicarbonate 7,5% solution L0680
	Salts Solutions	g / L	ml / L
L0605	Hanks' Balanced Salt Solution w/o Calcium w/o Magnesium w/o Sodium Bicarbonate w/o Phenol Red	0,35	4,7
L0608	Hanks' Balanced Salt Solution w/ Calcium w/ Magnesium w/o Sodium Bicarbonate w/ Phenol Red	0,35	4,7
P0153	Hanks' Balanced Salts w/o Calcium w/o Magnesium w/o Sodium Bicarbonate w/o Phenol Red	0,35	4,7
P0154	Hanks' Balanced Salts w/ Calcium w/ Magnesium w/o Sodium Bicarbonate	0,35	4,7
X0112	Earle's Balanced Salt Solution 10X w/ Calcium w/ Magnesium w/o Sodium Bicarbonate	2,2 For 1X	29,3 For 1X
X0113	Earle's Balanced Salt Solution 10X w/o Calcium w/o Magnesium w/o Sodium Bicarbonate	2,2 For 1X	29,3 For 1X
X0507	Hanks' Balanced Salt Solution 10X w/o Calcium w/o Magnesium w/o Sodium Bicarbonate w/o Phenol Red	0,35 For 1X	4,7 For 1X
X0509	Hanks' Balanced Salt Solution 10X w/ Calcium w/ Magnesium w/o Sodium Bicarbonate w/ Phenol Red	0,35 For 1X	4,7 For 1X
X0513	Hanks' Balanced Salt Solution 10X w/o Calcium w/o Magnesium w/o Sodium Bicarbonate w/ Phenol Red	0,35 For 1X	4,7 For 1X

TABLE FOR ADDITION OF L-GLUTAMINE

		Addition of L-Glutamine powder P1012	Addition of L-Glutamine 100X, 200 mM solution X0550
		g / L	ml / L
L0042	BME w/ Earle's Salts w/o L-Glutamine	0,292	10
L0064	DMEM Low Glucose w/o L-Glutamine w/ Sodium Pyruvate	0,584	20
L0090	DMEM F12 w/o L-Glutamine w/o Hepes	0,365	12,5
L0091	DMEM F12 w/o L-Glutamine w/o Hepes w/o Glucose	0,365	12,5
L0094	DMEM F12 w/o L-Glutamine w/ 15 mM Hepes	0,365	12,5
L0096	DMEM F12 w/o L-Glutamine w/ 25 mM Hepes	0,365	12,5
L0100	DMEM High Glucose w/o L-Glutamine w/ 25mM Hepes	0,584	20
L0101	DMEM High Glucose w/o L-Glutamine w/o Sodium Pyruvate	0,584	20
L0106	DMEM High Glucose w/o L-Glutamine w/ Sodium Pyruvate	0,584	20
L0136	Ham's F12 w/o L-Glutamine	0,146	5
L0145	Ham's F10 w/o L-Glutamine	0,146	5
L0192	IMDM w/o L- Glutamine w/o Hepes	0,584	20
L0222	Glasgow MEM BHK 21 w/o L-Glutamine w/o Tryptose Phosphate Broth	0,292	10
L0300	Leibovitz L-15 Medium w/o L-Glutamine	0,3	10,25
L0356	Medium 199 w/ Earles' Salts w/o L-Glutamine	0,1	3,4
L0430	MEM w/ Earle's Salts w/o L-Glutamine w/NEAA	0,292	10
L0440	MEM w/ Earle's Salts w/o L-Glutamine	0,292	10
L0445	MEM w/ Earle's Salts w/o L-Glutamine w/ 25mM Hepes	0,292	10
L0465	MEM w/ Hanks' Salts w/o L-Glutamine	0,292	10
L0470	MEM w/ Hanks' Salts w/o L-Glutamine w/ 25mM Hepes	0,292	10
L0476	MEM Alpha w/o L-Glutamine w/o Ribunocleosides w/o Deoxyribonucleosides	0,292	10
L0490	RPMI 1640 w/o L-Glutamine w/ 25 mM Hepes	0,3	10,25
L0492	RPMI 1640 Dutch Modification w/o L-Glutamine w/ 1g/l Sodium Bicarbonate w/ 20mM Hepes	0,3	10,25
L0501	RPMI 1640 w/o L-Glutamine	0,3	10,25
L0503	RPMI 1640 w/o L-Glutamine w/o Folic Acid	0,3	10,25
L0505	RPMI 1640 w/o L-Glutamine w/o Phenol Red	0,3	10,25
P0410	Medium 199 w/ Hanks' Salts w/o L-Glutamine w/o Sodium Bicarbonate	0,1	3,4
P0870	RPMI 1640 w/o L-Glutamine w/o Sodium Bicarbonate	0,3	10,25
P0871	RPMI 1640 w/o L-Glutamine w/o Sodium Bicarbonate w/o Phenol Red	0,3	10,25
P0875	RPMI 1640 w/o L-Glutamine w/o Sodium Bicarbonate w/ 25mM Hepes	0,3	10,25

COMPOSITION

	BASAL MEDIUM EAGLE - BME	L0042 Liquid mg/l
Amino Acids	L-Arginine Monohydrochloride	21
	L-Cystine Dihydrochloride	15,65
	L-Glutamine	/
	L-Histidine	8
	L-Isoleucine	26
	L-Leucine	26
	L-Lysine Monohydrochloride	36,47
	L-Methionine	7,5
	L-Phenylalanine	16,5
	L-Threonine	24
	L-Tryptophan	4
	L-Tyrosine Disodium Salt Dihydrate	25,95
	L-Valine	23,5
Inorganic Salts	Calcium Chloride Dihydrate	265
	Magnesium Sulfate Anhydrous	97,67
	Potassium Chloride	400
	Potassium Phosphate Monobasic Anhydrous	/
	Sodium Bicarbonate	2200
	Sodium Chloride	6800
	Sodium Phosphate Dibasic Anhydrous	/
	Sodium Phosphate Monobasic Anhydrous	122
Vitamins	Choline Chloride	1
	D-Biotin	1
	D-Ca Pantothenate	1
	Folic Acid	1
	Myo-Inositol	2
	Nicotinamide (Nicotinic acid amide)	1
	Pyridoxal Hydrochloride	1
	Riboflavin	0,1
	Thiamine Hydrochloride	1
O.C.*	D-Glucose Anhydrous	1000
	Hepes Free Acid	/
	Phenol Red Sodium Salt	11

COMPOSITION

CMRL 1066

		P0058 Powder mg/l
Amino Acids	Glycine	50
	L-Alanine	25
	L-Arginine Free Base	57,87
	L-Aspartic Acid	30
	L-Cysteine Monohydrochloride Monohydrate	260
	L-Cystine Dihydrochloride	20
	L-Glutamic Acid	75
	L-Glutamine	100
	L-Histidine Monohydrochloride Monohydrate	20
	L-Hydroxy-L-Proline	10
	L-Isoleucine	20
	L-Leucine	60
	L-Lysine Monohydrochloride	70
	L-Methionine	15
	L-Phenylalanine	25
	L-Proline	40
	L-Serine	25
	L-Threonine	30
	L-Tryptophan	10
	L-Tyrosine	40
	L-Valine	25
Inorganic salts	Calcium Chloride Anhydrous	200
	Magnesium Sulfate Anhydrous	97,69
	Potassium Chloride	400
	Sodium Acetate Anhydrous	50
	Sodium Chloride	6800
	Sodium Phosphate Monobasic Anhydrous	122

		P0058 Powder mg/l
Vitamins	2' Deoxyadenosine Monohydrate	10,715
	2' Deoxycytidine Monohydrochloride	11,6
	2' Deoxyguanosine Monohydrate	10
	5-Methyl-2' -Deoxycytidine Hydrochloride	0,1
	Ascorbic Acid	50
	B-NAD	7
	B-NADP + Na	1
	Choline Chloride	0,5
	Cocarboxylase	1
	D-Biotin	0,01
	D-Ca Pantothenate	0,01
	Flavin Adenine Dinucleotide Disodium Salt	0,106
	Folic Acid	0,01
	Myo-Inositol	0,05
	Nicotinamide (Nicotinic acid amide)	0,025
	Nicotinic Acid	0,025
	P-Aminobenzoic Acid (PABA)	0,05
	Pyridoxal Hydrochloride	0,025
	Pyridoxine Hydrochloride	0,025
	Riboflavin	0,01
	Thiamine Hydrochloride	0,01
O.C.*	Cholesterol	0,2
	Coenzyme A.Na	2,5
	D-Glucose Anhydrous	1000
	D-Glucuronic Acid + Na	3,88
	L-Glutathione Reduced	10
	Phenol Red Sodium Salt	21,24
	Thymidine	10
	Tween 80	5
	Uridine-5-Triphosphate + Na	1

COMPOSITION

DMEM High Glucose

		L0100 Liquid mg/l	L0101 Liquid mg/l	L0102 Liquid mg/l	L0103 Liquid mg/l	L0104 Liquid mg/l	L0106 Liquid mg/l	L0107 Liquid mg/l	P0102 Powder mg/l	P0103 Powder mg/l
Amino Acids	Glycine	30	30	30	30	30	30	30	30	30
	L-Alanyl-L-Glutamine (Glutamine Stable)	/	/	/	862	/	/	862	/	/
	L-Arginine Monohydrochloride	84	84	84	84	84	84	84	84	84
	L-Cystine Dihydrochloride	62,6	62,6	62,6	62,6	62,6	62,6	62,6	62,6	62,6
	L-Glutamine	/	/	584	/	584	/	/	584	584
	L-Histidine Monohydrochloride Monohydrate	42	42	42	42	42	42	42	42	42
	L-Isoleucine	105	105	105	105	105	105	105	105	105
	L-Leucine	105	105	105	105	105	105	105	105	105
	L-Lysine Monohydrochloride	146	146	146	146	146	146	146	146	146
	L-Methionine	30	30	30	30	30	30	30	30	30
	L-Phenylalanine	66	66	66	66	66	66	66	66	66
	L-Serine	42	42	42	42	42	42	42	42	42
	L-Threonine	95	95	95	95	95	95	95	95	95
	L-Tryptophan	16	16	16	16	16	16	16	16	16
	L-Tyrosine Disodium Salt Dihydrate	103,79	103,79	103,79	103,79	103,79	103,79	103,79	103,79	103,79
	L-Valine	94	94	94	94	94	94	94	94	94
Inorganic Acids	Calcium Chloride Dihydrate	265	265	265	265	265	265	265	265	265
	Ferric Nitrate Nonahydrate	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1
	Magnesium Sulfate Anhydrous	97,67	97,67	97,67	97,67	97,67	97,67	97,67	97,67	97,67
	Potassium chloride	400	400	400	400	400	400	400	400	400
	Sodium Bicarbonate	3700	3700	3700	3700	3700	3700	3700	/	/
	Sodium Chloride	4400	6400	6400	6400	6400	6400	4400	6400	6400
	Sodium Phosphate Monobasic Anhydrous	109	109	109	109	109	109	109	109	109
Vitamins	Choline Chloride	4	4	4	4	4	4	4	4	4
	D-Ca Pantothenate	4	4	4	4	4	4	4	4	4
	Folic Acid	4	4	4	4	4	4	4	4	4
	Myo-Inositol	7,2	7,2	7,2	7,2	7,2	7,2	7,2	7,2	7,2
	Nicotinamide (Nicotinic acid amide)	4	4	4	4	4	4	4	4	4
	Pyridoxine Hydrochloride	/	/	/	4	/	/	4	/	/
	Pyridoxal Hydrochloride	4	4	4	/	4	4	/	4	4
	Riboflavin	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4	0,4
	Thiamine Hydrochloride	4	4	4	4	4	4	4	4	4
O.C.*	D-Glucose Anhydrous	4500	4500	4500	4500	4500	4500	4500	4500	4500
	Hepes Free Acid	5958	/	/	/	/	/	5958	/	/
	Phenol Red Solution Salt	15,9	15,9	15,9	15,9	15,9	15,9	15,9	15,9	15,9
	Sodium Pyruvate	/	/	/	110	110	110	/	110	/

* Other Components

COMPOSITION

DMEM Low Glucose

		L0060 Liquid mg/l	L0064 Liquid mg/l	L0065 Liquid mg/l	L0066 Liquid mg/l	P0061 Powder mg/l
Amino Acids	Glycine	30	30	30	30	30
	L-Alanyl-L-Glutamine (Glutamine Stable)	/	/	/	862	/
	L-Arginine Monohydrochloride	84	84	84	84	84
	L-Cystine Dihydrochloride	62,6	62,6	62,6	62,6	62,6
	L-Glutamine	584	/	584	/	584
	L-Histidine Monohydrochloride Monohydrate	42	42	42	42	42
	L-Isoleucine	105	105	105	105	105
	L-Leucine	105	105	105	105	105
	L-Lysine Monohydrochloride	146	146	146	146	146
	L-Methionine	30	30	30	30	30
	L-Phenylalanine	66	66	66	66	66
	L-Serine	42	42	42	42	42
	L-Threonine	95	95	95	95	95
	L-Tryptophan	16	16	16	16	16
	L-Tyrosine Disodium Salt Dihydrate	103,79	103,79	103,79	103,79	103,79
	L-Valine	94	94	94	94	94
norganic Salts	Calcium Chloride Anhydrous	/	/	/	/	200
	Calcium Chloride Dihydrate	265	265	265	265	/
	Ferric Nitrate Nonahydrate	0,1	0,1	0,1	0,1	0,1
	Magnesium Sulfate Anhydrous	97,67	97,67	97,67	97,67	97,67
	Potassium chloride	400	400	400	400	400
	Sodium Bicarbonate	3700	3700	3700	3700	/
	Sodium Chloride	6400	6400	4400	6400	6400
	Sodium Phosphate Monobasic Anhydrous	109	109	109	109	109
Vitamins	Choline Chloride	4	4	4	4	4
	D-Ca Pantothenate	4	4	4	4	4
	Folic Acid	4	4	4	4	4
	Myo-Inositol	7,2	7,2	7,2	7,2	7,2
	Nicotinamide (Nicotinic acid amide)	4	4	4	4	4
	Pyridoxal Hydrochloride	4	4	4	4	4
	Riboflavin	0,4	0,4	0,4	0,4	0,4
	Thiamine Hydrochloride	4	4	4	4	4
O.C.*	D-Glucose Anhydrous	1000	1000	1000	1000	1000
	Hepes Free Acid	/	/	5958	/	/
	Phenol Red Solution Salt	15,9	15,9	15,9	15,9	15,9
	Sodium Pyruvate	110	110	110	110	110

COMPOSITION

DMEM Ham's F12

		L0090 Liquid mg/l	L0091 Liquid mg/l	L0092 Liquid mg/l	L0093 Liquid mg/l	L0094 Liquid mg/l	L0095 Liquid mg/l	L0096 Liquid mg/l	P0095 Powder mg/l
Amino Acids	Glycine	18,75	18,75	18,75	18,75	18,75	18,75	18,75	18,75
	L-Alanine	4,45	4,45	4,45	4,45	4,45	4,45	4,45	4,45
	L-Alanyl-L-Glutamine (Glutamine Stable)	/	/	542	/	/	/	/	/
	L-Arginine Monohydrochloride	147,5	147,5	147,5	147,5	147,5	147,5	147,5	147,5
	L-Asparagine Monohydrate	7,5	7,5	7,5	7,5	7,5	7,5	7,5	7,5
	L-Aspartic Acid	6,65	6,65	6,65	6,65	6,65	6,65	6,65	6,65
	L-Cysteine Monohydrochloride Monohydrate	17,56	17,56	17,56	17,56	17,56	17,56	17,56	17,56
	L-Cystine Dihydrochloride	31,29	31,29	31,29	31,29	31,29	31,29	31,29	31,29
	L-Glutamic Acid	7,35	7,35	7,35	7,35	7,35	7,35	7,35	7,35
	L-Glutamine	/	/	/	365	/	365	/	365
	L-Histidine Monohydrochloride Monohydrate	31,48	31,48	31,48	31,48	31,48	31,48	31,48	31,48
	L-Isoleucine	54,47	54,47	54,47	54,47	54,47	54,47	54,47	54,47
	L-Leucine	59,05	59,05	59,05	59,05	59,05	59,05	59,05	59,05
	L-Lysine Monohydrochloride	91,25	91,25	91,25	91,25	91,25	91,25	91,25	91,25
	L-Methionine	17,24	17,24	17,24	17,24	17,24	17,24	17,24	17,24
	L-Phenylalanine	35,48	35,48	35,48	35,48	35,48	35,48	35,48	35,48
	L-Proline	17,25	17,25	17,25	17,25	17,25	17,25	17,25	17,25
	L-Serine	26,25	26,25	26,25	26,25	26,25	26,25	26,25	26,25
	L-Threonine	53,45	53,45	53,45	53,45	53,45	53,45	53,45	53,45
	L-Tryptophan	9,02	9,02	9,02	9,02	9,02	9,02	9,02	9,02
	L-Tyrosine Disodium Salt Dihydrate	55,79	55,79	55,79	55,79	55,79	55,79	55,79	55,79
	L-Valine	52,85	52,85	52,85	52,85	52,85	52,85	52,85	52,85
Inorganic Salts	Calcium Chloride Dihydrate	154,5	154,5	154,5	154,5	154,5	154,5	154,5	154,5
	Cupric Sulfate Pentahydrate	0,0013	0,0013	0,0013	0,0013	0,0013	0,0013	0,0013	0,0013
	Ferric Nitrate Nonahydrate	0,05	0,05	0,05	0,05	0,05	0,05	0,05	0,05
	Ferrous Sulfate Heptahydrate	0,417	0,417	0,417	0,417	0,417	0,417	0,417	0,417
	Magnesium Chloride Anhydrous	/	/	/	/	/	/	/	28,64
	Magnesium Chloride Hexahydrate	61,2	61,2	61,2	61,2	61,2	61,2	61,2	/
	Magnesium Sulfate Anhydrous	48,84	48,84	48,84	48,84	48,84	48,84	48,84	48,84
	Potassium chloride	311,8	311,8	311,8	311,8	311,8	311,8	311,8	311,8
	Sodium Bicarbonate	2438	2438	1200	1200	1200	1200	1200	/
	Sodium Chloride	6996	6996	6996	6996	6996	6996	6996	6996
	Sodium Phosphate Dibasic Anhydrous	71,02	71,02	71,02	71,02	71,02	71,02	71,02	71,02
	Sodium Phosphate Monobasic Anhydrous	54,3	54,3	54,3	54,3	54,3	54,3	54,3	54,3
	Zinc Sulfate Heptahydrate	0,432	0,432	0,432	0,432	0,432	0,432	0,432	0,432

COMPOSITION

	DMEM Ham's F12	L0090 Liquid mg/l	L0091 Liquid mg/l	L0092 Liquid mg/l	L0093 Liquid mg/l	L0094 Liquid mg/l	L0095 Liquid mg/l	L0096 Liquid mg/l	P0095 Powder mg/l
Vitamins	Choline Chloride	8,98	8,98	8,98	8,98	8,98	8,98	8,98	8,98
	D-Biotin	0,0035	0,0035	0,0035	0,0035	0,0035	0,0035	0,0035	0,0035
	D-Ca Pantothenate	2,24	2,24	2,24	2,24	2,24	2,24	2,24	2,24
	Folic Acid	2,66	2,66	2,66	2,66	2,66	2,66	2,66	2,66
	Myo-Inositol	12,6	12,6	12,6	12,6	12,6	12,6	12,6	12,6
	Nicotinamide (Nicotinic acid amide)	2,02	2,02	2,02	2,02	2,02	2,02	2,02	2,02
	Pyridoxal Hydrochloride	2	2	/	2	2	2	2	2
	Pyridoxine Hydrochloride	0,031	0,031	2,031	0,031	0,031	0,031	0,031	0,031
	Riboflavin	0,219	0,219	0,219	0,219	0,219	0,219	0,219	0,219
	Thiamine Hydrochloride	2,17	2,17	2,17	2,17	2,17	2,17	2,17	2,17
	Vitamin B12	0,68	0,68	0,68	0,68	0,68	0,68	0,68	0,68
O.C.*	D-Glucose Anhydrous	3151	/	3151	3151	3151	3151	3151	3151
	Hepes Free Acid	/	/	3574,5	3574,5	3574,5	5957	5957	3574,5
	Hypoxanthine	2,1	2,1	2,1	2,1	2,1	2,1	2,1	2,1
	Linoleic acid	0,042	0,042	0,042	0,042	0,042	0,042	0,042	0,042
	Phenol Red Sodium Salt	8,63	8,63	8,63	8,63	8,63	8,63	8,63	8,63
	Putrescine+2HCL	0,081	0,081	0,081	0,081	0,081	0,081	0,081	0,081
	Sodium Pyruvate	55	55	55	55	55	55	55	55
	Thioctic Acid	0,105	0,105	0,105	0,105	0,105	0,105	0,105	0,105
	Thymidine	0,365	0,365	0,365	0,365	0,365	0,365	0,365	0,365

* Other Components

COMPOSITION

	Glasgow MEM BHK 21 (GMEM)	L0221 Liquid mg/l	P0120 Powder mg/l
Amino Acids	L-Arginine Monohydrochloride	42	42
	L-Cystine Dihydrochloride	31,29	31,29
	L-Glutamine	292	292
	L-Histidine Monohydrochloride Monohydrate	21	21
	L-Isoleucine	52,4	52,4
	L-Leucine	52,4	52,4
	L-Lysine Monohydrochloride	73,1	73,1
	L-Methionine	15	15
	L-Phenylalanine	33	33
	L-Threonine	47,6	47,6
	L-Tryptophan	8	8
	L-Tyrosine Disodium Salt Dihydrate	52,19	52,19
	L-Valine	46,8	46,8
Inorganic Salts	Calcium Chloride Anhydrous	/	200
	Calcium Chloride Dihydrate	265	/
	Ferric Nitrate Nonahydrate	0,1	0,1
	Magnesium Sulfate Anhydrous	97,67	97,67
	Potassium Chloride	400	400
	Sodium Bicarbonate	2750	/
	Sodium Chloride	6400	6400
	Sodium Phosphate Monobasic Anhydrous	107,8	/
	Sodium Phosphate Monobasic Dihydrate	/	124
Vitamins	Choline Chloride	2	2
	D-Ca Pantothenate	2	2
	Folic Acid	2	2
	Myo-Inositol	3,6	3,6
	Nicotinamide (Nicotinic acid amide)	2	2
	Pyridoxal Hydrochloride	2	2
	Riboflavin	0,2	0,2
	Thiamine Hydrochloride	2	2
O.C.*	D-Glucose Anhydrous	4500	4500
	Phenol Red Sodium Salt	16	16

* Other Components

COMPOSITION

Ham's F10 (F10 Nutrient Medium)

		L0130 Liquid mg/l	L0140 Liquid mg/l	L0145 Liquid mg/l	P0146 Powder mg/l
Amino Acids	Glycine	7,51	7,51	7,51	7,51
	L-Alanine	9	9	9	9
	L-Arginine Monohydrochloride	211	211	211	211
	L-Asparagine Monohydrate	15,01	15,01	15,01	15,01
	L-Aspartic Acid	13,3	13,3	13,3	13,3
	L-Cysteine Monohydrochloride Monohydrate	35	35	35	35
	L-Glutamic Acid	14,7	14,7	14,7	14,7
	L-Glutamine	146	146	/	146
	L-Histidine Monohydrochloride Monohydrate	21	21	21	21
	L-Isoleucine	2,6	2,6	2,6	2,6
	L-Leucine	13,1	13,1	13,1	13,1
	L-Lysine Monohydrochloride	29,3	29,3	29,3	29,3
	L-Methionine	4,48	4,48	4,48	4,48
	L-Phenylalanine	4,96	4,96	4,96	4,96
	L-Proline	11,5	11,5	11,5	11,5
	L-Serine	10,5	10,5	10,5	10,5
	L-Threonine	3,57	3,57	3,57	3,57
	L-Tryptophan	0,6	0,6	0,6	0,6
	L-Tyrosine Disodium Salt Dihydrate	2,61	2,61	2,61	2,61
	L-Valine	3,5	3,5	3,5	3,5
Inorganic Salts	Calcium Chloride Dihydrate	44,1	44,1	44,1	44,1
	Cupric Sulfate Pentahydrate	0,0025	0,0025	0,0025	0,0025
	Ferrous Sulfate Heptahydrate	0,834	0,834	0,834	0,834
	Magnesium Sulfate Anhydrous	74,64	74,64	74,64	74,64
	Potassium Chloride	285	285	285	285
	Sodium Phosphate Monobasic Anhydrous	83	83	83	83
	Sodium Bicarbonate	1200	1200	1200	/
	Sodium Chloride	6800	7400	7400	7400
	Sodium Phosphate Dibasic Anhydrous	153,7	153,7	153,7	153,7
	Zinc Sulfate Heptahydrate	0,0288	0,0288	0,0288	0,0288
Vitamins	Choline Chloride	0,698	0,698	0,698	0,698
	D-Biotin	0,024	0,024	0,024	0,024
	D-Ca Pantothenate	0,715	0,715	0,715	0,715
	Folic Acid	1,32	1,32	1,32	1,32
	Myo-Inositol	0,541	0,541	0,541	0,541
	Nicotinamide (Nicotinic acid amide)	0,615	0,615	0,615	0,615
	Pyridoxine Hydrochloride	0,206	0,206	0,206	0,206
	Riboflavin	0,376	0,376	0,376	0,376
	Thiamine Hydrochloride	1	1	1	1
	Vitamin B12	1,36	1,36	1,36	1,36
O.C.*	D-Glucose Anhydrous	1100	1100	1100	1100
	Hepes Free Acid	5958	/	/	/
	Hypoxanthine	4,08	4,08	4,08	4,08
	Phenol Red Solution Salt	1,3	1,3	1,3	1,3
	Sodium Pyruvate	110	110	110	110
	Thioctic Acid	0,21	0,21	0,21	0,21
	Thymidine	0,73	0,73	0,73	0,73

* Other Components

COMPOSITION

Ham's F12 (F-12 Nutrient Medium)

		L0135 Liquid mg/l	L0136 Liquid mg/l	P0134 Powder mg/l
Amino Acids	Glycine	7,51	7,51	7,51
	L-Alanine	9	9	9
	L-Arginine Monohydrochloride	211	211	211
	L-Asparagine Monohydrate	15,01	15,01	15,01
	L-Aspartic Acid	13,3	13,3	13,3
	L-Cysteine Monohydrochloride Monohydrate	35	35	35
	L-Glutamic Acid	14,7	14,7	14,7
	L-Glutamine	146	/	146
	L-Histidine Monohydrochloride Monohydrate	20,96	20,96	20,96
	L-Isoleucine	3,94	3,94	3,94
	L-Leucine	13,1	13,1	13,1
	L-Lysine Monohydrochloride	36,5	36,5	36,5
	L-Methionine	4,48	4,48	4,48
	L-Phenylalanine	4,96	4,96	4,96
	L-Proline	34,5	34,5	34,5
	L-Serine	10,5	10,5	10,5
	L-Threonine	11,9	11,9	11,9
	L-Tryptophan	2,04	2,04	2,04
	L-Tyrosine Disodium Salt Dihydrate	7,78	7,78	7,78
	L-Valine	11,7	11,7	11,7
Inorganic Salts	Calcium Chloride Dihydrate	44,1	44,1	44,1
	Cupric Sulfate Pentahydrate	0,0025	0,0025	0,0025
	Ferrous Sulfate Heptahydrate	0,834	0,834	0,834
	Magnesium Sulfate Anhydrous	/	/	57,22
	Magnesium Chloride Hexahydrate	123	123	/
	Potassium Chloride	224	224	224
	Sodium Bicarbonate	1176	1176	/
	Sodium Chloride	7599	7599	7599
	Sodium Phosphate Dibasic Anhydrous	142,04	142,04	142,04
	Zinc Sulfate Heptahydrate	0,863	0,863	0,863
Vitamins	Choline Chloride	13,96	13,96	13,96
	D-Biotin	0,0073	0,0073	0,0073
	D-Ca Pantothenate	0,48	0,48	0,48
	Folic Acid	1,32	1,32	1,32
	Myo-Inositol	18	18	18
	Nicotinamide (Nicotinic acid amide)	0,037	0,037	0,037
	Pyridoxine Hydrochloride	0,062	0,062	0,062
	Riboflavin	0,038	0,038	0,038
	Thiamine Hydrochloride	0,34	0,34	0,34
	Vitamin B12	1,36	1,36	1,36
O.C.*	D-Glucose Anhydrous	1802	1802	1802
	Hypoxanthine	4,08	4,08	4,08
	Linoleic Acid	0,084	0,084	0,084
	Phenol Red Solution Salt	1,3	1,3	1,3
	Putrescine+2HCL	0,161	0,161	0,161
	Sodium Pyruvate	110	110	110
	Thioctic Acid	0,21	0,21	0,21
	Thymidine	0,73	0,73	0,73

* Other Components

COMPOSITION

Iscove's Modified Dulbecco's Medium (IMDM)

		L0190 Liquid mg/l	L0191 Liquid mg/l	L0192 Liquid mg/l	P0191 Powder mg/l	P0192 Powder mg/l
Amino Acids	Glycine	30	30	30	30	30
	L-Alanine	25	25	25	25	25
	L-Alanyl-L-Glutamine (Glutamine stable)	/	862	/	/	/
	L-Arginine Monohydrochloride	84	84	84	84	84
	L-Asparagine Monohydrate	28,4	28,4	28,4	28,4	28,4
	L-Aspartic Acid	30	30	30	30	30
	L-Cystine Dihydrochloride	91,24	91,24	91,24	91,24	91,24
	L-Glutamic Acid	75	75	75	75	75
	L-Glutamine	584	/	/	584	584
	L-Histidine Monohydrochloride Monohydrate	42	42	42	42	42
	L-Isoleucine	105	105	105	105	105
	L-Leucine	105	105	105	105	105
	L-Lysine Monohydrochloride	146	146	146	146	146
	L-Methionine	30	30	30	30	30
	L-Phenylalanine	66	66	66	66	66
	L-Proline	40	40	40	40	40
	L-Serine	42	42	42	42	42
	L-Threonine	95	95	95	95	95
	L-Tryptophan	16	16	16	16	16
	L-Tyrosine Disodium Salt Dihydrate	103,79	103,79	103,79	103,79	103,79
	L-Valine	94	94	94	94	94
Inorganic Salts	Calcium Chloride Dihydrate	219	219	219	219	219
	Magnesium Sulfate Anhydrous	97,67	97,67	97,67	97,67	97,67
	Potassium Chloride	330	330	330	330	330
	Potassium Nitrate	0,076	0,076	0,076	0,076	0,076
	Sodium Bicarbonate	3024	3024	3024	/	3024
	Sodium Chloride	4505	4505	4505	4505	4505
	Sodium Phosphate Monobasic Anhydrous	109	109	109	109	109
	Sodium Selenite	0,017	0,017	0,017	0,017	0,017
Vitamins	Choline Chloride	4	4	4	4	4
	D-Biotin	0,013	0,013	0,013	0,013	0,013
	D-Ca Pantothenate	4	4	4	4	4
	Folic Acid	4	4	4	4	4
	Myo-Inositol	7,2	7,2	7,2	7,2	7,2
	Nicotinamide (Nicotinic acid amide)	4	4	4	4	4
	Pyridoxal Hydrochloride	4	4	4	4	4
	Riboflavin	0,4	0,4	0,4	0,4	0,4
	Thiamine Hydrochloride	4	4	4	4	4
	Vitamin B12	0,013	0,013	0,013	0,013	0,013
O.C.*	D-Glucose Anhydrous	4500	4500	4500	4500	4500
	Hepes Free Acid	5958	5958	/	5958	5958
	Phenol Red Sodium Salt	16	16	16	16	/
	Sodium Pyruvate	110	110	110	110	110

* Other Components

COMPOSITION

Leibovitz L15 Medium

		L0300 Liquid mg/l	P0350 Powder mg/l
Amino Acids	Glycine	200	200
	L-Alanine	450	450
	L-Arginine Free Base	500	500
	L-Asparagine Anhydrous	250	250
	L-Cysteine Monohydrochloride Monohydrate	157,176	157,176
	L-Glutamine	/	300
	L-Histidine	250	250
	L-Isoleucine	250	250
	L-Leucine	125	125
	L-Lysine Monohydrochloride	75	75
	L-Methionine	150	150
	L-Phenylalanine	250	250
	L-Serine	200	200
	L-Threonine	600	600
	L-Tryptophan	20	20
	L-Tyrosine	300	300
	L-Valine	200	200
Inorganic Salts	Calcium Chloride Dihydrate	185	185
	Magnesium Chloride Anhydrous	/	93,66
	Magnesium Chloride Hexahydrate	200	/
	Magnesium Sulfate Anhydrous	97,67	97,67
	Potassium Chloride	400	400
	Potassium Phosphate Monobasic Anhydrous	60	60
	Sodium Chloride	8000	8000
	Sodium Phosphate Dibasic Anhydrous	190	190
Vitamins	Choline Chloride	1	1
	D-Ca Pantothenate	1	1
	Flavin Adenine Dinucleotide Disodium Salt	0,1	0,1
	Folic Acid	1	1
	Myo-Inositol	2	2
	Nicotinamide (Nicotinic acid amide)	1	1
	Pyridoxine Hydrochloride	1	1
	Thiamine Hydrochloride	1	1
O.C.*	D-Galactose	900	900
	Phenol Red Sodium Salt	11	11
	Sodium Pyruvate	550	550

* Other Components

COMPOSITION

MC Coy's 5A Medium Modified

		L0210 Liquid mg/l	L0211 Liquid mg/l	P0390 Powder mg/l
Amino Acids	Glycine	7,51	7,51	7,51
	L-Alanine	13,36	13,36	13,36
	L-Arginine Monohydrochloride	42,14	42,14	42,14
	L-Asparagine Monohydrate	45,03	45,03	45,03
	L-Aspartic Acid	19,97	19,97	19,97
	L-Cysteine	24,24		24,24
	L-Cystine Dihydrochloride	/	35,14	/
	L-Glutamic Acid	22,07	22,07	22,07
	L-Glutamine	219,15	/	219,15
	L-Histidine Monohydrochloride Monohydrate	20,96	20,96	20,96
	L-Hydroxy-L-Proline	19,67	19,67	19,67
	L-Isoleucine	39,36	39,36	39,36
	L-Leucine	39,36	39,36	39,36
	L-Lysine Monohydrochloride	36,54	36,54	36,54
	L-Methionine	14,92	14,92	14,92
	L-Phenylalanine	16,52	16,52	16,52
	L-Proline	17,27	17,27	17,27
	L-Serine	26,28	26,28	26,28
	L-Threonine	17,87	17,87	17,87
	L-Tryptophan	3,06	3,06	3,06
	L-Tyrosine Disodium Salt Dihydrate	26,1	26,12	26,1
	L-Valine	17,57	17,57	17,57
Inorganic Salts	Calcium Chloride Anhydrous	99,95	/	99,95
	Calcium Chloride Dihydrate	/	132,5	/
	Magnesium Sulfate Anhydrous	97,69	97,68	97,69
	Potassium Chloride	400	400	400
	Sodium Bicarbonate	2200	2200	/
	Sodium Chloride	6460	6460	6460
	Sodium Phosphate Monobasic Anhydrous	504	/	504
	Sodium Phosphate Monobasic Monohydrate	/	580	/
Vitamins	Ascorbic Acid	0,56	0,5	0,56
	Choline Chloride	5	5	5
	D-Biotin	0,2	0,2	0,2
	D-Ca Pantothenate	0,2	0,2	0,2
	Folic Acid	10	10	10
	Myo-Inositol	36	36	36
	Nicotinamide (Nicotinic acid amide)	0,5	0,5	0,5
	Nicotinic Acid	0,5	0,5	0,5
	P-Aminobenzoic Acid (PABA)	1	1	1
	Pyridoxal Hydrochloride	0,5	0,5	0,5
	Pyridoxine Hydrochloride	0,5	0,5	0,5
	Riboflavin	0,2	0,2	0,2
	Thiamine Hydrochloride	0,2	0,2	0,2
	Vitamin B12	2	2	2
O.C.*	D-Glucose Anhydrous	3000	3000	3000
	L-Glutathione Reduced	0,5	0,5	0,5
	Peptone from soybean	600	600	600
	Phenol Red Sodium Salt	11	10	11

* Other Components

COMPOSITION

Medium 199

		L0330 Liquid mg/l	L0355 Liquid mg/l	L0356 Liquid mg/l	P0410 Powder mg/l	P0420 Powder mg/l	P0425 Powder mg/l	L0361 Liquid mg/l
Amino Acids	Glycine	50	50	50	50	50	50	50
	L-Alanine	50	50	50	50	50	50	50
	L-Alanyl-L-Glutamine (Glutamine stable)	/	/	/	/	/	/	100
	L-Arginine Monohydrochloride	70	70	70	70	70	70	70
	L-Aspartic Acid	60	60	60	60	60	60	60
	L-Cysteine Monohydrochloride Monohydrate	0,11	0,11	0,11	0,11	0,11	0,11	0,11
	L-Cystine Dihydrochloride	26	26	26	26	26	26	26
	L-Glutamic Acid	133,6	133,6	133,6	133,6	133,6	133,6	133,6
	L-Glutamine	100	100	/	/	100	100	/
	L-Histidine Monohydrochloride Monohydrate	21,88	21,88	21,88	21,88	21,88	21,88	21,88
	L-Hydroxy-L-Proline	10	10	10	10	10	10	10
	L-Isoleucine	40	40	40	40	40	40	40
	L-Leucine	120	120	120	120	120	120	120
	L-Lysine Monohydrochloride	70	70	70	70	70	70	70
	L-Methionine	30	30	30	30	30	30	30
	L-Phenylalanine	50	50	50	50	50	50	50
	L-Proline	40	40	40	40	40	40	40
	L-Serine	50	50	50	50	50	50	50
	L-Threonine	60	60	60	60	60	60	60
	L-Tryptophan	20	20	20	20	20	20	20
	L-Tyrosine Disodium Salt Dihydrate	57,66	57,66	57,66	57,66	57,66	57,66	57,66
	L-Valine	50	50	50	50	50	50	50
Inorganic Salts	Calcium Chloride Dihydrate	185	265	265	185	265	265	265
	Ferric Nitrate Nonahydrate	0,72	0,72	0,72	0,72	0,72	0,72	0,72
	Magnesium Sulfate Anhydrous	97,67	97,67	97,67	97,67	97,67	97,67	97,67
	Potassium Chloride	400	400	400	400	400	400	400
	Potassium Phosphate Monobasic Anhydrous	60	/	/	60	/	/	/
	Sodium Acetate Anhydrous	50	50	50	50	50	50	50
	Sodium Bicarbonate	350	1250	2200	/	/	/	2200
	Sodium Chloride	8000	6800	6800	8000	6800	6000	6000
	Sodium Phosphate Dibasic Anhydrous	47,88	/	/	47,88	/	/	/
	Sodium Phosphate Monobasic Anhydrous	/	122	122	/	122	122	122

COMPOSITION

Medium 199 (following)

		L0330 Liquid mg/l	L0355 Liquid mg/l	L0356 Liquid mg/l	P0410 Powder mg/l	P0420 Powder mg/l	P0425 Powder mg/l	L0361 Liquid mg/l
Vitamins	Ascorbic Acid	0,0566	0,0566	0,0566	0,0566	0,0566	0,0566	0,0566
	Choline Chloride	0,5	0,5	0,5	0,5	0,5	0,5	0,5
	DL-alpha-Tocopherol Phosphate Disodium Salt	0,01	0,01	0,01	0,01	0,01	0,01	0,01
	D-Biotin	0,01	0,01	0,01	0,01	0,01	0,01	0,01
	D-Ca Pantothenate	0,01	0,01	0,01	0,01	0,01	0,01	0,01
	Ergocalciferol	0,1	0,1	0,1	0,1	0,1	0,1	0,1
	Folic Acid	0,01	0,01	0,01	0,01	0,01	0,01	0,01
	Menadione Sodium Bisulfite	0,016	0,016	0,016	0,016	0,016	0,016	0,016
	Myo-Inositol	0,05	0,05	0,05	0,05	0,05	0,05	0,05
	Nicotinamide (Nicotinic acid amide)	0,025	0,025	0,025	0,025	0,025	0,025	0,025
	Nicotinic Acid	0,025	0,025	0,025	0,025	0,025	0,025	0,025
	P-Aminobenzoic Acid (PABA)	0,05	0,05	0,05	0,05	0,05	0,05	0,05
	Pyridoxal Hydrochloride	0,025	0,025	0,025	0,025	0,025	0,025	0,025
	Pyridoxine Hydrochloride	0,025	0,025	0,025	0,025	0,025	0,025	0,025
	Riboflavin	0,01	0,01	0,01	0,01	0,01	0,01	0,01
	Thiamine Hydrochloride	0,01	0,01	0,01	0,01	0,01	0,01	0,01
	Vitamin A Acetate	0,14	0,14	0,14	0,14	0,14	0,14	0,14
O.C.*	2 Deoxy-D-Ribose	0,5	0,5	0,5	0,5	0,5	0,5	0,5
	Adenine Sulfate	10	10	10	10	10	10	10
	Adenosine 5'Monophosphate	0,2385	0,2385	0,2385	0,2385	0,2385	0,2385	0,2385
	Adenosine-5-Triphosphate x 2Na	1	1	1	1	1	1	1
	Cholesterol	0,2	0,2	0,2	0,2	0,2	0,2	0,2
	D-Glucose Anhydrous	1000	1000	1000	1000	1000	1000	1000
	D-Ribose	0,5	0,5	0,5	0,5	0,5	0,5	0,5
	Guanine	0,3	0,3	0,3	/	0,3	/	/
	Guanine + HCl	/	/	/	0,3	/	0,3	0,3
	Hepes Free Acid	/	/	/	/	/	5958	5958
	Hypoxanthine	0,3	0,3	0,3	0,3	0,3	0,3	0,3
	L-Glutathione Reduced	0,05	0,05	0,05	0,05	0,05	0,05	0,05
	Phenol Red Sodium Salt	21,3	21,3	21,3	21,3	21,3	21,3	21,3
	Thymine	0,3	0,3	0,3	0,3	0,3	0,3	0,3
	Tween 80	20	20	20	20	20	20	20
	Uracil	0,3	0,3	0,3	0,3	0,3	0,3	0,3
	Xanthine + Na	0,344	0,344	0,344	0,344	0,344	0,344	0,344

* Other Components

COMPOSITION

MEM with Earle's Salts

		L0415 Liquid mg/l	L0416 Liquid mg/l	L0430 Liquid mg/l	L0440 Liquid mg/l	L0444 Liquid mg/l	L0445 Liquid mg/l	P0450 Powder mg/l	P0451 Powder mg/l
Amino Acids	Glycine	/	/	7,5	/	/	/	7,5	/
	L-Alanine	/	/	8,9	/	/	/	8,9	/
	L-Alanyl-L-Glutamine (Glutamine Stable)	/	434,4	/	/	/	/	/	/
	L-Arginine Monohydrochloride	126	126	126	126	126	126	126	126
	L-Asparagine Monohydrate	/	/	15	/	/	/	15	/
	L-Aspartic Acid	/	/	13,3	/	/	/	13,3	/
	L-Cystine Dihydrochloride	31,3	31,3	31,3	31,3	31,3	31,3	31,3	31,3
	L-Glutamic Acid	/	/	14,7	/	/	/	14,7	/
	L-Glutamine	292	/	/	/	292	/	292	292
	L-Histidine Monohydrochloride Monohydrate	42	42	42	42	42	42	42	42
	L-Isoleucine	52	52	52	52	52	52	52	52
	L-Leucine	52	52	52	52	52	52	52	52
	L-Lysine Monohydrochloride	72,5	72,5	72,5	72,5	72,5	72,5	72,5	72,5
	L-Methionine	15	15	15	15	15	15	15	15
	L-Phenylalanine	32	32	32	32	32	32	32	32
	L-Proline	/	/	11,5	/	/	/	11,5	/
	L-Serine	/	/	10,5	/	/	/	10,5	/
	L-Threonine	48	48	48	48	48	48	48	48
	L-Tryptophan	10	10	10	10	10	10	10	10
	L-Tyrosine Disodium Salt Dihydrate	51,9	51,9	51,9	51,9	51,9	51,9	51,9	51,9
	L-Valine	46	46	46	46	46	46	46	46
Inorganic Salts	Calcium Chloride Dihydrate	265	265	265	265	265	265	265	200
	Magnesium Sulfate Anhydrous	97,67	97,67	97,67	97,67	97,67	97,67	97,67	97,67
	Potassium Chloride	400	400	400	400	400	400	400	400
	Sodium Bicarbonate	2200	2200	2200	2200	2200	2200	/	/
	Sodium Chloride	6800	6800	6800	6800	5500	5500	6800	6800
	Sodium Phosphate Monobasic Anhydrous	122	122	122	122	122	122	122	122
Vitamins	Choline Chloride	1	1	1	1	1	1	1	1
	D-Ca Pantothenate	1	1	1	1	1	1	1	1
	Folic Acid	1	1	1	1	1	1	1	1
	Myo-Inositol	2	2	2	2	2	2	2	2
	Nicotinamide (Nicotinic acid amide)	1	1	1	1	1	1	1	1
	Pyridoxal Hydrochloride	1	/	1	1	1	1	1	1
	Pyridoxine Hydrochloride	/	1	/	/	/	/	/	/
	Riboflavin	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1
	Thiamine Hydrochloride	1	1	1	1	1	1	1	1
O.C.*	D-Glucose Anhydrous	1000	1000	1000	1000	1000	1000	1000	1000
	Hepes Free Acid	/	/	/	/	5958	5958	/	/
	Phenol Red Sodium Salt	11	11	11	11	11	11	11	11

* Other Components

MEM Vitamins

	X0556 Liquid mg/l
Sodium Chloride	8500
Choline Chloride	100
D-Ca Pantothenate	100
Folic Acid	100
Myo-Inositol	200
Nicotinamide (Nicotinic acid amide)	100
Pyridoxal Hydrochloride	100
Riboflavin	10
Thiamine Hydrochloride	100

MEM Non Essential Amino Acids

	X0557 Liquid mg/l
Glycine	750
L-Alanine	890
L-Asparagine Monohydrate	1500
L-Aspartic Acid	1330
L-Glutamic Acid	1470
L-Proline	1150
L-Serine	1050

COMPOSITION

MEM with Hanks' Salts

		L0465 Liquid mg/l	L0470 Liquid mg/l	P0515 Liquid mg/l
Amino Acids	Glycine	/	/	7,5
	L-Alanine	/	/	8,9
	L-Arginine Monohydrochloride	126	126	126
	L-Asparagine Monohydrate	/	/	15
	L-Aspartic Acid	/	/	13,3
	L-Cystine Dihydrochloride	31,3	31,3	31,3
	L-Glutamic Acid	/	/	14,7
	L-Glutamine	/	/	292
	L-Histidine Monohydrochloride Monohydrate	42	42	42
	L-Isoleucine	52	52	52
	L-Leucine	52	52	52
	L-Lysine Monohydrochloride	72,5	72,5	72,5
	L-Methionine	15	15	15
	L-Phenylalanine	32	32	32
	L-Proline	/	/	11,5
	L-Serine	/	/	10,5
	L-Threonine	48	48	48
	L-Tryptophan	10	10	10
	L-Tyrosine Disodium Salt Dihydrate	51,9	51,9	51,9
	L-Valine	46	46	46
Inorganic Salts	Calcium Chloride Dihydrate	185	185	185
	Magnesium Sulfate Anhydrous	97,67	97,67	97,67
	Potassium Chloride	400	400	400
	Potassium Phosphate Monobasic Anhydrous	60	60	60
	Sodium Bicarbonate	350	350	/
	Sodium Chloride	8000	7500	8000
	Sodium Phosphate Dibasic Anhydrous	47,88	47,88	47,88
Vitamins	Choline Chloride	1	1	1
	D-Ca Pantothenate	1	1	1
	Folic Acid	1	1	1
	Myo-Inositol	2	2	2
	Nicotinamide (Nicotinic acid amide)	1	1	1
	Pyridoxine Hydrochloride	1	1	1
	Riboflavin	0,1	0,1	0,1
	Thiamine Hydrochloride	1	1	1
O.C.*	D-Glucose Anhydrous	1000	1000	1000
	Hepes Free Acid	/	5958	/
	Phenol Red Sodium Salt	11	11	11

* Other Components

COMPOSITION

MEM Alpha Modification

		L0475 Liquid mg/l	L0476 Liquid mg/l	P0440 Powder mg/l
Amino Acids	Glycine	50	50	50
	L-Alanine	25	25	25
	L-Arginine Monohydrochloride	126	126	126
	L-Asparagine Monohydrate	50	50	50
	L-Aspartic Acid	30	30	30
	L-Cysteine Monohydrochloride Monohydrate	100	100	100
	L-Cystine Dihydrochloride	31,3	31,3	31,3
	L-Glutamic Acid	75	75	75
	L-Glutamine	292	/	292
	L-Histidine Monohydrochloride Monohydrate	42	42	42
	L-Isoleucine	52	52	52
	L-Leucine	52	52	52
	L-Lysine Monohydrochloride	72,5	72,5	72,5
	L-Methionine	15	15	15
	L-Phenylalanine	32	32	32
	L-Proline	40	40	40
	L-Serine	25	25	25
	L-Threonine	48	48	48
	L-Tryptophan	10	10	10
	L-Tyrosine Disodium Salt Dihydrate	51,9	51,9	51,9
	L-Valine	46	46	46
Inorganic Salts	Calcium Chloride Dihydrate	265	265	265
	Magnesium Sulfate Anhydrous	97,67	97,67	97,67
	Potassium Chloride	400	400	400
	Sodium Bicarbonate	2200	2200	/
	Sodium Chloride	6800	6800	6800
	Sodium Phosphate Monobasic Anhydrous	122	122	122
Vitamins	Ascorbic Acid	50	50	50
	Choline Chloride	1	1	1
	D-Biotin	0,1	0,1	0,1
	D-Ca Pantothenate	1	1	1
	Folic Acid	1	1	1
	Myo-Inositol	2	2	2
	Nicotinamide (Nicotinic acid amide)	1	1	1
	Pyridoxal Hydrochloride	1	1	1
	Riboflavin	0,1	0,1	0,1
	Thiamine Hydrochloride	1	1	1
	Vitamin B12	1,36	1,36	1,36
O.C.*	D-Glucose Anhydrous	1000	1000	1000
	Phenol Red Sodium Salt	11	11	11
	Sodium Pyruvate	110	110	110
	Thioctic Acid	0,2	0,2	0,2

* Other Components

COMPOSITION

RPMI 1640 Medium (Liquid)

		L0490 Liquid mg/l	L0492 Liquid mg/l	L0495 Liquid mg/l	L0496 Liquid mg/l	L0498 Liquid mg/l	L0500 Liquid mg/l	L0501 Liquid mg/l	L0503 Liquid mg/l	L0505 Liquid mg/l
Amino Acids	Glycine	10	10	10	10	10	10	10	10	10
	L-Alanyl-L-Glutamine (Glutamine Stable)	/	/	/	446	446	/	/	/	/
	L-Arginine Free Base	200	200	200	200	200	200	200	200	200
	L-Asparagine Anhydrous	50	50	50	50	50	50	50	50	50
	L-Aspartic Acid	20	20	20	20	20	20	20	20	20
	L-Cystine Dihydrochloride	65,2	65,2	65,2	65,2	65,2	65,2	65,2	65,2	65,2
	L-Glutamic Acid	20	20	20	20	20	20	20	20	20
	L-Glutamine	/	/	300	/	/	300	/	/	/
	L-Histidine	15	15	15	15	15	15	15	15	15
	L-Hydroxy-L-Proline	20	20	20	20	20	20	20	20	20
	L-Isoleucine	50	50	50	50	50	50	50	50	50
	L-Leucine	50	50	50	50	50	50	50	50	50
	L-Lysine Monohydrochloride	40	40	40	40	40	40	40	40	40
	L-Methionine	15	15	15	15	15	15	15	15	15
	L-Phenylalanine	15	15	15	15	15	15	15	15	15
	L-Proline	20	20	20	20	20	20	20	20	20
	L-Serine	30	30	30	30	30	30	30	30	30
	L-Threonine	20	20	20	20	20	20	20	20	20
	L-Tryptophan	5	5	5	5	5	5	5	5	5
	L-Tyrosine Disodium Salt Dihydrate	28,83	28,83	28,83	28,83	28,83	28,83	28,83	28,83	28,83
	L-Valine	20	20	20	20	20	20	20	20	20
Inorganic Salts	Calcium Nitrate Tetrahydrate	100	100	100	100	100	100	100	100	100
	Magnesium Sulfate Anhydrous	48,84	48,84	48,84	48,84	48,84	48,84	48,84	48,84	48,84
	Potassium Chloride	400	400	400	400	400	400	400	400	400
	Sodium Bicarbonate	2000	1000	2000	2000	2000	2000	2000	2000	2000
	Sodium Chloride	6000	6400	6000	6000	6000	6000	6000	6000	6000
	Sodium Phosphate Dibasic Anhydrous	800	800	800	800	800	800	800	800	800
Vitamins	Choline Chloride	3	3	3	3	3	3	3	3	3
	D-Biotin	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2
	D-Ca Pantothenate	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25	0,25
	Folic Acid	1	1	1	1	1	1	1	/	1
	Myo-Inositol	35	35	35	35	35	35	35	35	35
	Nicotinamide (Nicotinic acid amide)	1	1	1	1	1	1	1	1	1
	P-Aminobenzoic Acid (PABA)	1	1	1	1	1	1	1	1	1
	Pyridoxine Hydrochloride	1	1	1	1	1	1	1	1	1
	Riboflavin	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2	0,2
	Thiamine Hydrochloride	1	1	1	1	1	1	1	1	1
	Vitamin B12	0,005	0,005	0,005	0,005	0,005	0,005	0,005	0,005	0,005
O.C.*	D-Glucose Anhydrous	2000	2000	2000	2000	2000	2000	2000	2000	2000
	Hepes Free Acid	5960	4770	5960	5960	/	/	/	/	/
	L-Glutathione Reduced	1	1	1	1	1	1	1	1	1
	Phenol Red Sodium Salt	5,3	5,3	5,3	5,3	5,3	5,3	5,3	5,3	/

* Other Components

COMPOSITION

RPMI 1640 Medium (Powder)

		P0860 Powder mg/l	P0870 Powder mg/l	P0871 Powder mg/l	P0876 Powder mg/l	P0883 Powder mg/l	P0880 Powder mg/l
Amino acids	Glycine	10	10	10	10	10	10
	L-Alanyl-L-Glutamine (Glutamine Stable)	/	/	/	/	/	/
	L-Arginine Free Base	200	200	200	/	200	200
	L-Arginine Monohydrochloride	/	/	/	241,9	/	/
	L-Asparagine Anhydrous	50	50	50	50	50	50
	L-Aspartic Acid	20	20	20	20	20	20
	L-Cystine	/	/	/	50	/	/
	L-Cystine Dihydrochloride	65,2	65,2	65,2	/	65,2	65,2
	L-Glutamic Acid	20	20	20	20	20	20
	L-Glutamine	300	/	/	300	300	300
	L-Histidine	15	15	15	15	15	15
	L-Hydroxy-L-Proline	20	20	20	20	20	20
	L-Isoleucine	50	50	50	50	50	50
	L-Leucine	50	50	50	50	50	50
	L-Lysine Monohydrochloride	40	40	40	40	40	40
	L-Methionine	15	15	15	15	15	15
	L-Phenylalanine	15	15	15	15	15	15
	L-Proline	20	20	20	20	20	20
	L-Serine	30	30	30	30	30	30
	L-Threonine	20	20	20	20	20	20
	L-Tryptophan	5	5	5	5	5	5
	L-Tyrosine	/	/	/	20	/	/
	L-Tyrosine Disodium Salt Dihydrate	28,83	28,83	28,83	/	28,83	28,83
	L-Valine	20	20	20	20	20	20
Inorganic salts	Calcium Nitrate Tetrahydrate	100	100	100	100	100	100
	Magnesium Sulfate Anhydrous	48,84	48,84	48,84	/	48,84	48,84
	Magnesium Sulfate Heptahydrate	/	/	/	100	/	/
	Potassium Chloride	400	400	400	400	400	400
	Sodium Bicarbonate	/	/	/	/	/	/
	Sodium Chloride	6000	6000	6000	5500	6000	6000
	Sodium Phosphate Dibasic Anhydrous	800	800	800	800	800	800
Vitamins	Choline Chloride	3	3	3	3	3	3
	D-Biotin	0,2	0,2	0,2	0,2	0,2	0,2
	D-Ca Pantothenate	0,25	0,25	0,25	0,24	0,25	0,25
	Folic Acid	1	1	1	1	1	1
	Myo-Inositol	35	35	35	35	35	35
	Nicotinamide (Nicotinic acid amide)	1	1	1	1	1	1
	P-Aminobenzoic Acid (PABA)	1	1	1	1	1	1
	Pyridoxine Hydrochloride	1	1	1	1	1	1
	Riboflavin	0,2	0,2	0,2	0,2	0,2	0,2
	Thiamine Hydrochloride	1	1	1	1	1	1
	Vitamin B12	0,005	0,005	0,005	0,005	0,005	0,005
O.C.*	D-Glucose Anhydrous	2000	2000	2000	2000	/	2000
	Hepes Free Acid	/	/	/	5958	/	/
	L-Glutathione Reduced	1	1	1	1	1	1
	Phenol Red Sodium Salt	5,3	5,3	/	/	5,3	/

* Other Components

COMPOSITION

Schneider's Drosophila Medium

		L0207 Liquid mg/l
Amino Acids	Beta Alanine	500
	Glycine	250
	L-Arginine Free Base	600
	L-Aspartic Acid	400
	L-Cysteine Monohydrochloride Monohydrate	78,588
	L-Cystine Dihydrochloride	26,732
	L-Glutamic Acid	800
	L-Glutamine	1800
	L-Histidine	400
	L-Isoleucine	150
	L-Leucine	150
	L-Lysine Monohydrochloride	1650
	L-Methionine	150
	L-Proline	1700
	L-Serine	250
	L-Threonine	350
	L-Tryptophan	100
	L-Tyrosine Disodium Salt Dihydrate	720,199
	L-Valine	300
Inorganic Salts	Calcium Chloride Anhydrous	600
	Magnesium Sulfate Anhydrous	1807,221
	Potassium Chloride	1600
	Potassium Phosphate Monobasic Anhydrous	450
	Sodium Bicarbonate	400
	Sodium Chloride	2100
	Sodium Phosphate Dibasic Anhydrous	700
	Succinic Acid	60
O.C.*	Alpha-Ketoglutaric Acid	350
	D(+)-Trehalose Dihydrate	2000
	D-Glucose Anhydrous	2000
	Fumaric Acid	60
	L-Malic Acid	600
	Yeast Extract	2000

* Other Components

COMPOSITION

Dulbecco's Phosphate Buffered Saline DPBS

		L0615 Liquid mg/l	L0616 Liquid mg/l	X0515 Liquid mg/l	X0520 Liquid mg/l	P0750 Liquid mg/l
Inorganic Salts	Calcium Chloride Dihydrate	/	/	/	1330	/
	Magnesium Chloride Hexahydrate	/	/	/	1000	/
	Potassium Chloride	200	/	2000	2000	200
	Potassium Phosphate Monobasic Anhydrous	200	144	2000	2000	200
	Sodium Chloride	8000	9000	80000	80000	8000
	Sodium Phosphate Dibasic Anhydrous	1150	795	11500	11500	1150

Earle's Balanced Salts Solution EBSS

		L0601 Liquid mg/l	L0602 Liquid mg/l	X0112 Liquid mg/l	X0113 Liquid mg/l
Inorganic Salts	Calcium Chloride Dihydrate	/	265	2650	/
	Magnesium Sulfate Anhydrous	/	97,67	976,7	/
	Potassium Chloride	400	400	4000	4000
	Sodium Bicarbonate	2200	2200	/	/
	Sodium Chloride	6800	6800	68000	68000
	Sodium Phosphate Monobasic Anhydrous	122	122	1220	1220
O.C.*	D-Glucose Anhydrous	1000	1000	10000	10000
	Phenol Red Sodium Salt	11	11	110	110

Hank's Balanced Salts Solution

		L0605 Liquid mg/l	L0606 Liquid mg/l	L0607 Liquid mg/l	L0611 Liquid mg/l	L0612 Liquid mg/l
Inorganic Salts	Calcium Chloride Dihydrate	/	185	/	/	185
	Magnesium Sulfate Anhydrous	/	97,67	/	/	97,67
	Potassium Chloride	400	400	400	400	400
	Potassium Phosphate Monobasic Anhydrous	60	60	60	60	60
	Sodium Bicarbonate	/	350	350	350	350
	Sodium Chloride	8000	8000	8000	8000	8000
	Sodium Phosphate Dibasic Anhydrous	47,88	47,88	47,88	47,88	47,88
O.C.*	D-Glucose Anhydrous	1000	1000	1000	1000	1000
	Phenol Red Sodium Salt	/	11	/	11	/

Hank's Balanced Salts Solution

		X0507 Liquid mg/l	X0509 Liquid mg/l	X0510 Liquid mg/l	X0513 Liquid mg/l	P0153 Powder mg/l	P0154 Powder mg/l
Inorganic Salts	Calcium Chloride Dihydrate	/	1850	/	/	/	185
	Magnesium Sulfate Anhydrous	/	976,7	/	/	/	97,68
	Potassium Chloride	4000	4000	4000	4000	400	400
	Potassium Phosphate Monobasic Anhydrous	600	600	600	600	60	60
	Sodium Bicarbonate	/	/	3500	/	/	/
	Sodium Chloride	80000	80000	80000	80000	8000	8000
	Sodium Phosphate Dibasic Anhydrous	478,8	478,8	478,8	478,8	47,88	47,88
O.C.*	D-Glucose Anhydrous	10000	10000	10000	10000	1000	1000
	Phenol Red Sodium Salt	/	110	/	110	/	11

* Other Components

COMPOSITION

Other Salt Solution and Salts

		L0680 Liquid mg/l	L0640 Liquid mg/l	L0642 Liquid mg/l	L0643 Liquid mg/l	L0630 Liquid mg/l
Inorganic Salts	EDTA Disodium Salt Dihydrate	/	/	/	/	292
	Potassium Chloride	/	/	/	5590	193
	Potassium Phosphate Monobasic Anhydrous	/	/	/	/	190
	Sodium Bicarbonate	75000	/	/	/	/
	Sodium Chloride	/	8500	/	/	7995
	Sodium Phosphate Dibasic Anhydrous	/	/	/	/	1150
	Sodium Pyruvate	/	/	11000	/	/
O.C.*	D-Glucose Monohydrate	/	/	/	/	198

Trypsin

		L0909 Liquid mg/l	L0910 Liquid mg/l	L0930 Liquid mg/l	L0931 Liquid mg/l	L0932 Liquid mg/l
Inorganic Salts	EDTA Disodium Salt Dihydrate	/	/	221,4	380	200
	Potassium Chloride	200	200	400	400	400
	Potassium Phosphate Monobasic Anhydrous	200	200	/	60	60
	Sodium Bicarbonate	/	/	580	350	350
	Sodium Chloride	8000	8000	8000	8000	8000
	Sodium Phosphate Dibasic Anhydrous	1150	1150	/	48	48
O.C.*	D-Glucose Anhydrous	1000	1000	1000	1000	1000
	Phenol Red Sodium Salt	2	/	2	10	10
	Trypsin 1:250	2500	2500	500	2500	2500

Trypsin

		X0915 Liquid mg/l	X0920 Liquid mg/l	L0940 Liquid mg/l	X0930 Liquid mg/l	P0940 Powder mg/l	L0941 Liquid mg/l
Inorganic Salts	EDTA Disodium Salt Dihydrate	/	/	254,8	2214	2548	372
	Potassium Chloride	200	400	200	4000	/	200
	Potassium Phosphate Monobasic Anhydrous	200	60	200	/	/	200
	Sodium Bicarbonate	/	350	/	/	/	/
	Sodium Chloride	8000	8000	7950	8000	8040	7950
	Sodium Phosphate Dibasic Anhydrous	1150	47,88	1150	/	/	1150
O.C.*	D-Glucose Anhydrous	1000	1000	1000	10000	/	1000
	Phenol Red Sodium Salt	/	/	/	/	/	/
	Trypsin 1:250	25000	25000	500	5000	500	/
	Recombinant Trypsin 2500 USP	/	/	/	/	/	50

* Other Components

HEPES

	L0180 Liquid mg/l
Hepes Free Acid	238310

COMPOSITION

Antibiotics

		L0009 Liquid mg/l	L0010 Liquid mg/l	L0011 Liquid mg/l	L0012 Liquid mg/l
Antibiotics	Amphotericin B	250	25	/	/
	Penicillin G Sodium Salt	/	6027	/	/
	Streptomycin Sulfate	/	10000	/	/
	Gentamicin Sulfate	/	/	10000	50000
	G-418	/	/	/	/
Amino Acids	L-Glutamine	/	/	/	/
Inorganic Salts	Sodium Chloride	/	8500	/	/
	Sodium Deoxycholate	205	/	/	/

		L0014 Liquid mg/l	L0015 Liquid mg/l	L0018 Liquid mg/l	L0022 Liquid mg/l
Antibiotics	Amphotericin B	/	/	/	/
	Penicillin G Sodium Salt	6027	/	60,27	6027
	Streptomycin Sulfate	10000	/	100	10000
	Gentamicin Sulfate	/	/	/	/
	G-418	/	50000	/	/
Amino Acids	L-Glutamine	29200	/	/	/
Inorganic Salts	Sodium Chloride	/	/	8500	8500
	Sodium Deoxycholate	/	/	/	/

STANDARD TERMS OF SALES

The standard terms of sale and delivery shall be deemed to have been accepted for any order placed with our company. In the event of dispute, our terms cancel any conflicting clauses and terms printed on the orders or correspondence from buyers. Amendments of the initial agreement or any secondary agreement shall be valid only if they have been entered into in writing.

1- Products

The specifications and figures mentioned in our catalogues are given for information and without commitment. Biowest reserves the right to change its products without notice, depending on improvements imposed by the technical development.

2- Orders

Orders may be sent by letter or e-mail. Orders shall be final only when Biowest has confirmed them in writing. They must include :

- the numbers of our catalogues or our offers. If the description is vague, if we ourselves have to make a choice, we disclaim liability on this account. The buyer shall bear any costs of return for the resulting non-compliance.
- delivery and invoicing addresses
- Inter-community VAT number

3- Deliveries

3.1 – Delivery time

Delivery time shall be confirmed upon receipt of your order. If the products are not in stock, a delivery
time shall be proposed for information, subject to accidental cases and force majeure. No penalty for late performance or damage may be claimed in the event said deliver times are not respected. Biowest shall choose the method of dispatch that it considers
to be the most suitable for its customer, if the latter has not expressed special requirements.

3.2 – Accidental cases and force majeure

Biowest shall be released from its obligation to deliver in the event of any accidental case or force majeure event that impedes either the manufacturing, dispatch or import into France. A force majeure event means any event beyond our control, which results in delaying or preventing the performance that could not be reasonably controlled or avoided.

4- Price and invoicing

The prices on catalogues, printed leaflets, price lists or on-line are given for information. Biowest reserves the right to amend same, without notice. Our prices are guaranteed for the term of validity of the offer or the estimate, apart from the change in the price of raw materials, exchange rates of foreign currencies or customs duties. The prices invoiced shall always be those in force on the date of the actual delivery. Unless otherwise specified in writing, our prices are quoted net and excluding tax. Transport costs are defined in relation to volumes and end destinations.

5- Payment

5.1 – Terms and conditions

Our invoices are payable by cheque, bank or postal transfer, revocable letter of credit, within 30 days, date of invoicing net and without discount, unless otherwise agreed in writing. Biowest reserves the right to claim an advance payment or a part payment
prior to the fulfilment of the order.

5.2 – Penalty clause and event of default clause

By express agreement and except with Biowest's prior agreement, the non payment of an invoice at due date shall give rise, by operation of law,
regardless of the method of payment :

- to a minimum interest of 3 times the legal interest rate set by decree on 1 January of each year,
- the immediate payability of all outstanding amounts.

STANDARD TERMS OF SALES

Costs, outlay and expenses incurred by Biowest to obtain the payment of goods shall be borne by the customer under Article 700 of the French Code of Civil Procedure (French acronym N.C.P.C.): fixed allowance for recovery costs : EUR 40. Moreover, pending regularisation, Biowest reserves the right to suspend any subsequent deliveries.

6- Warranty of services and reservations

6.1 – Claims

The customer must check upon receipt of the products that the delivery is indeed compliant with its order. Any claim relating to transport should be made to our services within 48 hours and mentioned on the carrier's receipt. For any other non-apparent defect, we should be notified thereof within a maximum period of 3 months after receipt of the products and productstorage instructions should be respected
pending our instructions.

6.2 – Claim for partially thawed Serum

We do not accept claims if Animal Serum is delivered partially thawed, and we will not replace it free of charge, as our tests show a very good stability of the product even in these conditions.

6.3 – Return

No return shall be accepted without the prior and written agreement of our sales department, which shall specify the terms and conditions of return. The returned products shall be credited,
less a fixed amount for the costs of control and return to stock of 15% of the sale price, with a minimum of EUR 35 and only if they are in their original condition.

6.4 – Scope of the warranty

The user must decide that said product is suitable for its specific application. The products of our catalogue are devised for scientific purposes only (use in-vitro exclusively). They may not be used as drugs, annex therapeutical products, pharmaceutical or cosmetic preparations, farm product and human or veterinary use products. The buyer shall be solely responsible for their use.

6.5 – Transfer of risks

Our goods and their packaging shall always travel at the buyer's risks, even if they are dispatched carriage paid. We disclaim any liability for alterations occurring during transport. In the event of any damage, the consignee shall be responsible for notifying the carrier who made delivery of the losses and damage observed upon arrival, by registered letter within three days following receipt of the goods, in compliance with the regulations of Article 105 of the French Commercial Code and in general for bringing any claim against the carrier.

7- Retention of title clause

The seller reserves title to the goods until the price thereof in principal and interest has been paid in full. Failing payment of the price at the agreed due date, the seller may take back the goods. The sale shall be cancelled by operation of law if the seller sees fit and it shall be entitled to part payments already paid in consideration of any use of the goods by the buyer.

8- Disputes

Courts in the jurisdiction of the place of the company's registered office shall have sole jurisdiction in the event of a dispute of any kind or a dispute relating to the formation or fulfilment of the order. French law only shall govern orders placed with Biowest.

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GLOSSARY (BY CATALOG N°)

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ISO 9001 ISO 13485
BUREAU VERITAS
Certification

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*Only for Biowest SAS France

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The Serum Specialist