

RESEARCH - LAB FINE CHEM INDUSTRIES

MANUFACTURERS AND DIRECT EXPORTERS OF : Fine Laboratory Chemicals of LR, AR, HPLC & SPECTROSCOPY Grades, SILVER, GOLD, PLATINUM Salts, Indicator Stains & Solutions.

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MUMBAI MARKETING & CORRESPONDENCE OFF. :

1, Devkaran Mansion, 3rd Floor, 79, Princess Street,
Mumbai - 400 002. • Tele. : (022) 2206 2623
Tel . (022) 2203 5501 Cell : 88056 12151
E-mail : researchlab.salunkhe@gmail.com



FACTORY & REGD. OFF. :

F - 14, MIDC, Chemical Zone,
Islampur - 415 409, Dist - Sangli (MS) INDIA
Cell : 91463 30465, 74998 98114
E-mail : sales@researchlab.in

Bovine Serum (Fetal)

Origin: India

Heat inactivated

Product Code: 0010

Product Description:

Fetal bovine serum (FBS) is a ubiquitously used essential supplement in cell culture media. FBS is a cocktail of proteins, vitamins, carbohydrates, lipids, hormones, growth factors, minerals and trace elements and is used as an universal growth supplement effective for most types of human and animal (including insect) cells. The major functions of serum in culture media are to provide:

- (i) Hormonal factors stimulating cell growth and proliferation and promoting differentiated functions.
- (ii) Transport proteins carrying hormones (e.g. transcortin), minerals and trace elements (e.g. transferrin) and lipids (e.g. lipoproteins)
- (iii) Attachment and spreading factors, acting as germination points for cell attachment.
- (iv) Stabilizing and detoxifying factors needed to maintain pH or to inhibit proteases either directly, such as α -antitrypsin or α 2-macroglobulin, or indirectly, by acting as an unspecific sink for proteases and other (toxic) molecules.

0010 is heat inactivated Fetal bovine serum. Heat inactivation is done to destroy heat labile components such as complement that can lead to complement mediated cell lysis. Complement proteins, antibodies and enzymes present in the serum are inactivated by heat inactivation.

0010 is Fetal bovine serum collected from AQIS (Australian Quarantine and Inspection Service) approved abattoirs in Australia. Australia is considered to be free of BSE and FMD and belongs to GBR 1 category. Australian-origin serum is most commonly used in the production of many human and animal biopharmaceuticals and is proven to support the needs of industrial biopharmaceutical manufacturers.

Directions for Thawing of Serum:

Thawing of the sera should be done as quickly as possible in order to minimize the period of time during which elevated salt concentration prevail in the thawed liquid.

1. Remove the bottles from the freezer and allow them to acclimatize at room temperature for about 10 minutes and keep in 2-8°C overnight in refrigerator.

Note: Do not place the serum in the water bath or incubator. Avoid exposing serum to elevated temperatures as this can lead to degradation of heat labile nutrients.

2. Swirl the bottle of serum frequently during thawing to disperse released salts and proteins uniformly in the liquid.

Note on Cryoprecipitate:

We advise our users to follow the recommended thawing procedure. Proper thawing with periodic agitation is crucial to a serum's optimum performance. If bottle of serum is not frequently swirled during thawing, the released proteins and salts tend to form crystalline or flocculent precipitates. These cryoprecipitates are not detrimental to the performance of serum but might affect serum's appearance and consistency. Slight turbidity or small amount of flocculent material is normal in most serum products and will not affect its performance in any manner. Filtering serum to remove cryoprecipitate is not recommended and could result in loss of nutrients.

Quality Control:

Physical and Chemical analysis:

Appearance	: Amber liquid
pH	: 6.8 - 8.2
Osmolality	: 280 – 340 mOsm/KgH ₂ O

Endotoxin : Value EU/ml
Hemoglobin : < 20 mg/dl
Identity : Typical

Protein:

Total protein : 3.0- 4.5 g/dl
Albumin : value g/dl
 α -Globulin : value g/dl
 β -Globulin : value g/dl
 γ -Globulin : value g/dl
IgG : < 250 μ g/ml

Sterility Testing:

Aerobic bacteria : Not detected
Anaerobic bacteria : Not detected
Fungi : Not detected
Mycoplasma : Not detected

Virus testing:

Bovine Virus Diarrhea Virus (BVD-V) : Not detected
Bovine Herpes Virus 1 (BHV-1) : Not detected
Parainfluenza Type 3 (PI-3) : Not detected

Antibody testing:

BVD-1 Antibody titre : Value
BVD-2 Antibody titre : Value

Each lot of serum is tested for growth promotion and cytotoxicity. Growth promotion shows the ability of the serum to support the growth of a cell line using a standardized low inoculum in media with 10% serum over a period of 10 to 14 days.

Storage and Shelf Life:

Store at -10°C to -40°C away from bright light. Shelf life of the product is 48 months. Thawed serum can be stored at 2-8°C up to four weeks.

Multiple freeze thaw cycles should be avoided. Serum should never be stored in frost free freezers. Frost free appliance undergoes intermittent warming cycles to prevent ice deposits and this might lead to multiple thawing of serum.

To avoid multiple free thaw cycles or long periods of refrigeration, we recommend freezing small aliquots which can be thawed and used as required.

Use before expiry date given on the label.

Results : The above product complies with cell culture grade

Analysed By
S.A.Nikam

Checked By
P.K.Yadav

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