Fetal Bovine Serum
Origin: Canada

Product Code: RM9954

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) Stabilising and detoxifying factors needed to maintain pH or to inhibit proteases either directly, such as α-antitrypsin or α2-macroglobulin, or indirectly, by acting as an unspecific sink for proteases and other (toxic) molecules.

RM9954 is Fetal bovine serum sourced from approved abattoirs in Canada.

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 or overnight in refrigerator.
2. Place the bottles at 37°C in a water bath or incubator.
   Note: If placed in water bath ensure that the bottles do not float in water. Avoid exposing serum to elevated temperatures as this can lead to degradation of heat labile nutrients.
3. Swirl the bottle of serum frequently during thawing to disperse released salts and proteins uniformly in the liquid.
4. Swirl the bottle occasionally while working at room temperature in order to ensure that the liquid remains homogenous.

Note on Cryoprecipitate:
We advise 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 affect serum’s appearance and consistency.

Slight turbidity or small amounts of flocculent material may be observed even if serum is thawed using the recommended procedure. This is normal in most serum products and will not affect its performance in any manner.
If the serum is not thawed properly, larger amounts of cryoprecipitate will form which is often insoluble. 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/KgH₂O
- 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: < 250µg/ml

Sterility Testing:
- Aerobic bacteria: Not detected
- Anaerobic bacteria: Not detected
- Fungi: Not detected
- Mycoplasma: Not detected

Please refer disclaimer overleaf
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 titer               : Value
BVD-2 Antibody titer               : Value

Growth promotion and cytotoxicity:
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 eight 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.

Disclaimer:
User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related HiMedia™ publications. The information contained in this publication is based on our research and development work and is to the best of our knowledge true and accurate. HiMedia™ Laboratories Pvt Ltd reserves the right to make changes to specifications and information related to the products at any time. Products are not intended for human or animal diagnostic or therapeutic use but for laboratory, research or further manufacturing use only, unless otherwise specified. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for infringement of any patents.

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