New Born Calf Serum
Heat inactivated

Product Code: RM10437

Product Description:
New Born Calf Serum is processed from calves that are 3-10 days old. It contains higher levels of proteins and immunoglobulins and less growth factors than Fetal Bovine Serum (FBS). It is a cost effective alternative to FBS and can be used for culturing most mammalian cell lines. It has proved to be an efficient growth promoter in 3T3 cells (mouse fibroblasts).

Applications:
- Cost effective alternative to FBS.
- In fermentation industries where large quantity of serum is required.
- As an internal reference standard for quantitative protein assays such as double radial immuno-diffusion assay, ELISA, Western immunoblotting, electro-immuno-diffusion.
- As a blocking agent or as a negative control in non-precipitating antibody-binding assays.
- As a reference serum in nephelometry and other automated precipitation techniques.

RM10437 is Heat inactivated New born calf 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.

Applications of Heat inactivated Serum:
- Suitable for immunoassays, enzyme assays and cytotoxicity assays
- For culture of insect cells

Note: Heat inactivation process can be detrimental to the growth promoting capacity of serum. When heat inactivation of serum is done, along with the complement certain amino acids, vitamins and growth factors are subjected to temperatures that could cause degradation. Hence, it is recommended that researcher should experimentally determine and document the reasons for using heat inactivated serum.

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.

Please refer disclaimer overleaf
Quality Control:

Physical and Chemical analysis:
- pH: 6.8 - 8.2
- Osmolality: 260 – 340 mOsm/KgH₂O
- Endotoxin: Value EU/ml
- Hemoglobin: Value mg/dl
- Identity: Typical

Protein:
- Total protein: 5.0 - 8.5 g/dl
- Albumin: value g/dl
- α-Globulin: value g/dl
- β-Globulin: value g/dl
- γ-Globulin: value g/dl

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 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.