

# 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.

An ISO 9001, 14001 & OH 45001 and GMP, GLP Certified Company

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## New Born Calf Serum

Gamma irradiated

Product Code: 0020

### 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.

0020 is New Born Calf Serum gamma irradiated with 25-35kGy dose. Gamma irradiation is the preferred choice of the regulators to minimize the risk of viruses in animal-origin material. Gamma irradiation further reduces or eliminates wide range of viruses and mycoplasmas, which may be present in the serum after filtration, thus enhancing biological safety of the serum. This process involves exposing the serum to high energy gamma radiations released by radioisotopes such as Cobalt-60.

### 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 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 the 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:

pH	: 6.8 - 8.2
Osmolality	: 260 – 340 mOsm/KgH <sub>2</sub> O
Endotoxin	: Value EU/ml
Hemoglobin	: Value mg/dl
Identity	: Typical

**Protein:**

Total protein : 5.0 - 8.5 g/dl  
Albumin : value g/dl  
 $\alpha$ -Globulin : value g/dl  
 $\beta$ -Globulin : value g/dl  
 $\gamma$ -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 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 LR grade

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