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|--|----------------|----------------------------|--------------|---|
|  | Document ID:   | TDS-BSM-003-100ML          | Version:     | 001   |
|  | Date of Issue: | 10-JAN-2024                | Approved by: | Dr. Iman Kamranfar  |
|  | Review Date:   | 10-JAN-2025                | Signature:   |  |
|  | Title:         | <b>TECHNICAL DATASHEET</b> |              |   |

## Bovine Serum Albumin Solution 30% in DPBS, For Molecular Biology and Biochemistry

|                             |   |
|-----------------------------|---|
| <b>Treatment/Options</b>    | Sterile-filtered, does not contain stabilizer or preservative,<br>Fatty acid-free, Immunoglobulin-free, Low endotoxin |
| <b>Product Code</b>         | BSM-003-100ML   |
| <b>Origins</b>              | Australia   |
| <b>Pack Size</b>            | 100mL   |
| <b>Shelf Life</b>           | 3 Years from DOM  |
| <b>Storage Temperature</b>  | ≤ -15°C, away from direct light   |
| <b>Shipping Temperature</b> | Dry Ice   |

## QC Specifications

| Physical and Chemical Analysis  | Method   | Specifications                        | Units   |
|---------------------------------|--|---------------------------------------|---------|
| <b>Appearance</b>               | Visual   | Off-White to yellowish clear solution | n/a     |
| <b>Used BSA Protein: Purity</b> | Electrophoresis                                  | ≥99.0                                 | % (w/w) |
| <b>Used BSA Protein: Ash</b>    | Thermogravimetric analysis                       | ≤ 3.0%                                | % (w/w) |
| <b>pH</b>                       | Electronic pH Meter                              | 6.5 – 7.5                             | n/a     |
| <b>Osmolality</b>               | Osmometer  | Test and report                       | mOsm/kg |
| <b>Endotoxin</b>                | LAL Kinetic                                      | < 200                                 | EU/mL   |
| <b>Immunoglobulin</b>           | Single radial immunodiffusion                    | ≤ 0.002                               | % (w/w) |
| <b>Fatty Acid</b>               | Chromatography                                   | ≤ 0.02                                | % (w/w) |
| <b>Sterility and Virology</b>   |  |                                       |         |
| <b>Aerobic Bacteria</b>         | Internally Validated                             | Not detected                          | n/a     |
| <b>Anaerobic Bacteria</b>       | Internally Validated                             | Not detected                          | n/a     |
| <b>Fungi (Yeast &amp; Mold)</b> | Internally Validated                             | Not detected                          | n/a     |
| <b>Mycoplasma</b>               | qPCR   | Not detected                          | n/a     |
| <b>BVDV</b>                     | Virus Isolation/ Detection of Antibodies (ELISA) | Not detected                          | n/a     |
| <b>IBR</b>                      | Virus Isolation/ Detection of Antibodies (ELISA) | Not detected                          | n/a     |
| <b>PI3</b>                      | Virus Isolation/ Detection of Antibodies (ELISA) | Not detected                          | n/a     |

\*Other pack sizes are available on request.

The raw material used for production is of Australian origin. According to the World Organization for Animal Health (WOAH), Australia is recognized as being free from BSE. Consequently, we consider these products as BSE-free.

### Product Information

Bovine Serum Albumin (BSA) is a non-glycosylated protein of 66 kDa, produced by the liver, it is the most abundant protein in plasma. BSA is used in cell culture, molecular biology, protein biochemistry, and detection techniques.

### Applications

- Cell culture**

BSA is supplemented into cell culture media to enhance nutrition, especially in serum-free conditions. In cell culture, it acts as a small molecule carrier. Because of its negative charge, BSA binds water, salts, fatty acids, vitamins, peptides, and hormones and carries these bound components between tissues and cells, allowing efficient delivery of these nutrients into cultured cells. BSA also acts as an antioxidant, reducing cellular stress and damage.



- Molecular Biology & Biochemistry**

BSA finds several applications in molecular biology and laboratory procedures:

**Protein Quantification Standard:** BSA is used as a standard for protein quantification in experiments.

**Blocking Reagent:** It serves as a blocking reagent in immunoassays (such as ELISAs and immunoblots) due to its low cross-reactivity with antibodies compared to milk.

**Stabilizing Component:** BSA stabilizes extracellular fluid volume and acts as a carrier for small molecules like steroids, fatty acids, and thyroid hormones.

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**Restriction Enzyme Digests:** It's added to restriction enzyme digest reactions for stabilization.

**Stabilization:** It stabilizes extracellular fluid volume and serves as a carrier for small molecules in serum.

**Product Use:** This product is not intended for human or animal consumption or therapeutic use.