



Product Specification Sheet for Growth Media Supplement

Product Identifier: Ento-A (Bovine Serum Albumin) Enriched Growth Media Supplement

Lot: 004

Source: Recombinant, insect-derived

Expiration Date: TBD

Product Highlights:

Produced by the EntoEngine™ process, the Future Fields *Ento-A (Bovine Serum Albumin) Enriched Growth Media Supplement* comes in a 1000X concentrate, containing Bovine Serum Albumin that drives and increases proliferation of cells in two and three dimensions of culture. *Ento-A Bovine Serum Albumin Enriched Growth Media Supplement* is the most cost effective and sustainable option for cell culture Albumin needs and works as a direct replacement for other Albumin sources.

- Non-mammalian origin
- Low-risk expression platform with food-safe production capability
- Production requires minimal water, energy, and waste treatment

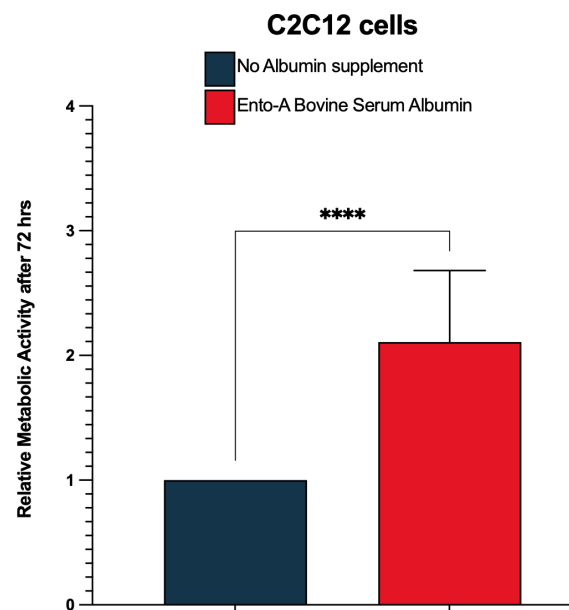
Description of Growth Factor Component:

Synonyms: Albumin, BSA, ALB

Description: BSA is a globular, non-glycoprotein with a molecular weight close to 66 kDa. It is a protein found predominantly in the circulatory system of the cow, but is also a constituent of the whey component of bovine milk. BSA is made of 583 amino acid residues and has 17 cysteine residues. Because of its size and higher levels of structure, BSA can bind free fatty acids and other lipids. Albumin binds, sequesters and stabilizes important small molecules and ions and this in turn protects cells from damaged molecules. Additionally, albumin is a powerful antioxidant that spares other proteins from degradation in the culture media and serum.

Sequence (monomer):

MKWVTFISLLLLFSSAYSRGVFRDTHKSEIAHRFKDLGEEHFKGLVLIAFSQYLQCPFDEHVKLVNELTEFAKTCVADESHAGCEKSLHTL
FGDELCKVASLRETYGDMADCCEKQEPERNECFLSHKDDSPDLPKLPDPNTLCDEFKADEKKFWGKLYEIAARRHPYFYAPELLYYANKY
NGVFQECQAEDKGACLLPKIETMREKVLASSARQLRCASIQKFGERALKAWSVARLSQKFPKAEFVEVTKLVTDLTKVHKECCHGDL
ECADDRADLAKYICDNQDTISSKLECCDKPLLEKSHCIAEVEKDAIPENLPPLTADFAEDKDVCCKNYQEAKDAFLGSLYEYSRRHPEYAVS
VLLRLAKEYEATLECCAKDDPHACYSTVFDKHLVDEPQNLKQNCQDFEKLGEYGFQNALIVRYTRKVPQVSTPTLVEVSRSLGKVGTR
CCTKPESERMPCTEDYLSLILNRLCVLHEKTPVSEKVTKCCTESLVNRRPCFSALTPDETYVPKAFDEKLTFHADICTLPDTEKQIKKQTALV
ELLKHKPKATEEQKTVMENFVAFVDKCCAADDKEACFAVEGPKLVVSTQTALA



Storage & Handling:

Handling: Store lyophilized protein at 2-8°C.

Handle this product with caution. It is an active protein and may elicit a biological response *in vivo*.

Reconstitution: For immediate use, reconstitute each vial in 5.0 mL ultrapure water (i.e. Milli-Q water). Pipette to mix.

Do not vortex.

Extended Storage: Aliquot before extended storage. Store at -80°C.

Storage/Stability: Store filter-sterilized working aliquots in media at 2-8°C for 1 week or less.

Specifications:

Formulation: Protein stored in 50 mM Tris pH 7.0, 150 mM NaCl, and 2 mM EDTA.

Authenticity: Verified by western blot.

Concentration: Ideal working concentration for your unique cell line should be determined by a dose curve.

Recommended starting range: 1:500 to 1:3000 dilution.

Biological Activity: Determined by cell proliferation assay with C2C12 immortalized myoblast cell line. Lot 004 was tested at 1:500 and 1:1000 dilutions in culture.

Endotoxin: Unknown. Analysis is ongoing.

Protein Content: Verified by SDS-PAGE and UV spectroscopy.

Usage and Special Instructions

Usage: For research only. Not for diagnostic or therapeutic use.

Important note: Purified protein is non-sterile.

Upon addition to media, **immediately filter-sterilize** the media.

Allow supplemented media to equilibrate to room temperature. Do not heat media at 37°C prior to use. Media should be changed or supplemented with product every 1-4 days. Protein supplemented media can be stored at 4°C for up to 1 week.

For frozen aliquots, thaw on ice or at room temperature. Do not heat to thaw. Keep on ice while using.