



Product Specification Sheet for Growth Media Supplement

Product Identifier: Ento-Tf Bovine Transferrin Enriched Growth Media Supplement

Lot: Ento-Tf002

Source: Recombinant, insect-derived **Expiration Date:** Reconstituted product can be stored at -80°C for 6 months

Product Highlights:

Produced by the EntoEngine™ process, the Future Fields *Ento-Tf Transferrin Enriched Growth Media Supplement* comes in a 1000X concentrate, containing enough Transferrin to sustain cell culture in two and three dimensions with cross species performance equivalent or better than expensive, overpurified alternatives. Usable as a direct replacement for Transferrin protein needs, or to reduce overall requirements for serum, the *Ento-Tf Transferrin Enriched Growth Media Supplement* is the most cost effective and sustainable option for cell culture Transferrin needs on the market today.

- High bioactivity across species
- 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:

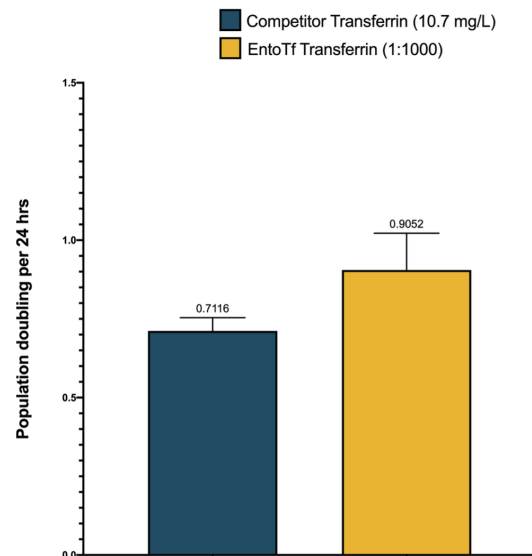
Synonyms: Transferrin, TF, Tf

Description: Transferrin is a glycoprotein that promotes cell proliferation by tightly binding and delivering iron into the cells via the Tf receptor. It is a bioactive protein intended for use in cell culture applications. Tf is an extracellular antioxidant, sequestering available iron and reducing the production of free radicals. Similarly, Tf has an antimicrobial function, impeding bacterial survival. Recombinant Bovine serotransferrin produced is a single glycosylated polypeptide chain containing 704 amino acids and having a molecular mass of 77 kDa. Transferrin is purified by a series of proprietary purification methodologies.

Sequence (monomer):

MRPAVRALLACAVLGLCLADPERTVRWCTISTHEANKCASFRENVLRILES GPFVSCVKKTSHMDCIKAISNNEADAVTLDGGLVYEAGLK
PNNLKPVVAEFHGTKDNPQTHYYAVAVVKKD DFKLNELRGKKSCHTGLGRSAGWNIPMAKLYKELPDPQESIQR AAANFFSASCVPC
ADQSSF PKLCQLCAGKGTDKCACSNHEPYFGYSGAFKCLMEGAGDVAFVKHSTVFDNLPNPEDRKNYELLCGDNTRKSVDDYQECYLA

C2C12 cells



MVPSHAVVARTVGGKEDVIWELLNHAQEHFGKDKPDNFQSPHKGKDLLFKDSADGFLKIPSKMDFELYLGYEYVTALQNLRESKPPD
SSKDECMVKWCAIGHQERTKCDRWSGFSGGAIECETAENTECEIAKIMKGEADAMSLDGGYLYIAGKCGLVPVLAENYKTEGESCKNTP
EKGYLAVAVVKTSDANINWNNLKDKKSCHTAVDRTAGWNIPMGLLYSKINNCKFDEFFSAGCAPGSPRNSLALCALCIGSEKGTGKECVPN
SNERYYGTTGAFRCLVEKGDVAFVKDQTVIQNTDGNNEAWAKNLKENFEVLCKDGTTRKPVTD AENCHLARGPNHAVVSRKDKATC
VEKILNKQQDDFGKSVTDCTSNFCLFQSNKDLLFRDDTKCLASIAKKTYSYLGDDYVRAMTNLRQCSTSKLLEACTFHKP

Storage & Handling:

Handling: Store lyophilized protein at 2-8°C. Centrifuge vial prior to opening.

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 0.5 mL ultrapure water (i.e. Milli-Q water). Pipette to mix.

Do not vortex. For extended storage, reconstitute in 0.5 mL ultrapure water with 10% glycerol.

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 8, 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 002 tested at a 1:1000 dilution in culture.

Endotoxin: None detected.

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 1-2 days. Protein supplemented media can be stored at 4°C for up to 1 week.

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