

DESCRIPTION

Source *E. coli*-derived human Betacellulin/BTC protein
Asp32-Gln118, with an N-terminal Met
Accession # P35070.1

N-terminal Sequence Analysis Met-Asp32

Predicted Molecular Mass 9.9 kDa

SPECIFICATIONS

SDS-PAGE 12-15 kDa, under reducing conditions.

Activity Measured in a cell proliferation assay using Balb/3T3 mouse embryonic fibroblast cells. Rubin, J.S. et al. (1991) Proc. Natl. Acad. Sci. USA 88:415. The ED₅₀ for this effect is 0.100-1.50 ng/mL.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >97%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100-500 µg/mL in PBS.

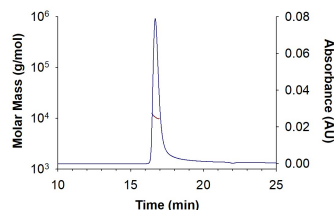
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

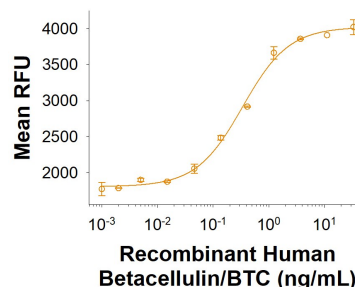
DATA

SEC-MALS

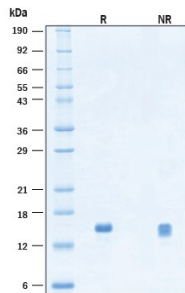


Recombinant Human Betacellulin/BTC Protein SEC-MALS. Recombinant Human Betacellulin/BTC Protein (Catalog # BT-BTC) has a molecular weight (MW) of 10.6 kDa as analyzed by SEC-MALS, suggesting that this protein is a monomer.

Bioactivity

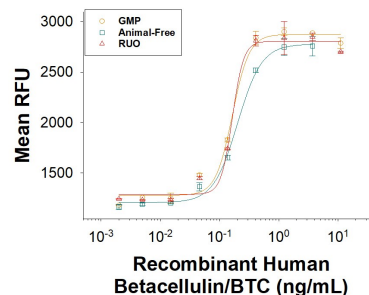


SDS-PAGE



Recombinant Human Betacellulin/BTC Protein SDS-PAGE. 2 µg/lane of Recombinant Human Betacellulin/BTC Protein (Catalog # BT-BTC) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 12-15 kDa.

Bioactivity



BACKGROUND

Betacellulin (BTC) is a new member of the EGF family of cytokines that is comprised of at least ten proteins including EGF, TGF- α , amphiregulin, HB-EGF, and the various heregulins. All of these cytokines are synthesized as transmembrane precursors and are characterized by the presence of one or more EGF structural units in their extracellular domain. The soluble forms of these cytokines are released by proteolytic cleavage. BTC, a heparin-binding protein, was originally isolated from the conditioned media of mouse pancreatic beta tumor cells as a 32 kDa glycoprotein composed of 80 amino acid residues. The cDNA encoding human BTC was cloned from a human breast adenocarcinoma cell line (MCF-7) cDNA library. Human and mouse cDNAs encode BTC precursor proteins of 178 and 177 amino acid residues, respectively. At the amino acid sequence level, human BTC precursor protein exhibits 79% identity with that of the mouse BTC precursor. In a mouse cell line transfected with human BTC cDNA, three forms of soluble human BTC have been detected: the glycosylated, intact BTC composed of 80 amino acid residues, a truncated molecule lacking 12 amino acid residues from the amino terminus, and a second truncated molecule lacking 30 amino acid residues from the amino terminus. The biological activities of these BTC forms were shown to be identical. BTC can bind to the EGF receptor and is a potent mitogen for Balb/c 3T3 fibroblasts, retinal pigment epithelial cells and vascular smooth muscle cells.