Data Sheet (Cat.No.TMPY-01323)

TargetMol

Betacellulin Protein, Mouse, Recombinant (His & hFc)

General Information

Synonyms:	Bcn;betacellulin;βcellulin
Protein Construction:	A DNA sequence encoding the mouse BTC (NP_031594.1) extracellular domain (Met 1-Gln 118) was fused with a C-terminal Fc region of human IgG1 tag followed by a polyhistidine tag. Predicted N terminal: Asp 32
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	Q05928
Molecular Weight:	38 kDa (predicted); 50-55 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Measured in a cell proliferation assay using Balb/3T3 mouse embryonic fibroblast cells. The ED50 for this effect is typically 2-10 ng/mL.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Betacellulin(BTC) is a member of the epidermal growth factor (EGF) family. These soluble proteins are ligands for one or more of the four receptor tyrosine kinases encoded by the ErbB gene family (ErbB-1/epidermal growth factor receptor (EGFR), neu/ErbB-2/HER2, ErbB-3/HER3 and ErbB-4/HER4). Betacellulin is a 32-kilodalton glycoprotein that appears to be processed from a larger transmembrane precursor by proteolytic cleavage. This

protein is a ligand for the EGF receptor. BTC is a polymer of about 62-111 amino acid residues. Secondary Structure: 6% helical (1 helices; 3 residues)36% beta sheet (5 strands; 18 residues). BTC was originally identified as a growth-promoting factor in mouse pancreatic β-cell carcinoma cell line and has since been identified in humans. It plays a role in the growth and development of the neonate and/or mammary gland function. Betacellulin is a potent mitogen for retinal pigment epithelial cells and vascular smooth muscle cells.

Reference

Shing Y,et al.(1993) Betacellulin: a mitogen from pancreatic beta cell tumors. Science . 259(5101): 1604-7.

Riese DJ,et al.(1996) Betacellulin activates the epidermal growth factor receptor and erbB-4, and induces cellular response patterns distinct from those stimulated by epidermal growth factor or neuregulin-beta. Oncogene. 12(2): 345-53.

Bastian SE, et al.(2001) Measurement of betacellulin levels in bovine serum, colostrum and milk. J Endocrinol . 168: 203-12.

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