Datasheet for ABIN2666771

Betacellulin Protein (BTC) (AA 32-111)

1 Image

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Overview

Quantity:	10 µg
Target:	Betacellulin (BTC)
Protein Characteristics:	AA 32-111
Origin:	Human
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active
Application:	ELISA, Flow Cytometry (FACS)

Product Details

Purity:	> 95 % , as determined by Coomassie stained SDS-PAGE.
Sterility:	0.22 µm filtered
Endotoxin Level:	Less than 0.01 ng per µg cytokine as determined by the LAL method.

Target Details

Target:	Betacellulin (BTC)
Alternative Name:	Betacellulin (BTC Products)
Background:	Human betacellulin was initially cloned from a cDNA library from human breast adenocarcinoma cell line MCF-7. It belongs to the EGF family of proteins that includes EGF, TGF-α, heparin-binding EGF like-growth factor (HB-EGF), epigen, epiregulin, betacellulin, neuroregulin, and tomoregulin. All EGF family members are synthesized as type I membrane

Target Details

	protein precursors, which can undergo proteolytic cleavage at the plasma membrane to release a mature soluble ectodomain. ADAM10 seems to be the main releasing enzyme for betacellulin and EGF. Human betacellulin precursor protein exhibits 79 % similarity with the mouse precursor at the amino acid level. The expression of betacellulin mRNA is high in pancreas, liver, kidney, and small intestine. Betacellulin induces the proliferation of endocrine precursor cells in pancreas, a fetal pancreatic epithelial cell line, and a rat insulinoma cell line. In addition, betacellulin induces proliferation and regeneration of pancreatic beta cells in diabetic mice. a process that is linked to the transcription of homeobox-1 and insulin receptor substrate (IRS)-2. These genes are involved in beta cell proliferation. Betacellulin binds not only to the EGFR, it binds and activates all possible heterodimeric combinations of the related ErbB receptors including the highly oncogenic ErbB2/3 dimer and homodimers of ErbB4. Betacellulin is expressed in lung cancer cells, hepatocellular carcinoma, and head-and-neck squamous carcinoma cells among others, and it is associated with tumor growth progression, angiogenesis, and invasiveness.
Molecular Weight:	The 80 amino acid recombinant protein has a predicted molecular mass of approximately 8.9 kDa. The DTT-reduced and non-reduced protein migrate at approximately 13 -15 kDa by SDS-PAGE. The predicted N-terminal amino acid is Asp.
Pathways:	RTK Signaling, Fc-epsilon Receptor Signaling Pathway, EGFR Signaling Pathway, Neurotrophin Signaling Pathway

Application Details

Application Notes:	Optimal working dilution should be determined by the investigator.
Comment:	Biological activity: ED50 = 0.03 - 0.18 ng/ml, corresponding to a specific activity of 5.5 - 33.3 x 106 units/mg, as determined by induction of BALB/3T3 cell proliferation.
Restrictions:	For Research Use only

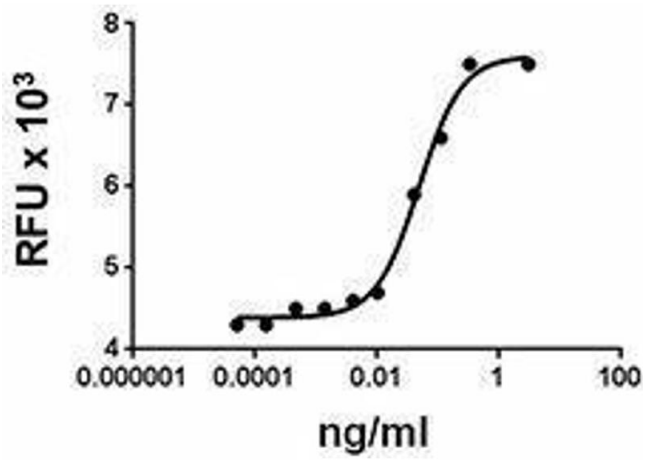
Handling

Format:	Liquid
Reconstitution:	For maximum results, quick spin vial prior to opening. Stock solutions should be prepared at no less than 10 µg/mL in sterile buffer (PBS, HPBS, DPBS, and EBSS) containing carrier protein such as 1 % BSA or HSA. After dilution, the cytokine can be stored between 2 °C and 8 °C for one month or from -20 °C to -70 °C for up to 3 months.
Buffer:	0.22 µm filtered protein solution is in PBS, pH 7.2.

Handling

Handling Advice:	Avoid repeated freeze/thaw cycles.
Storage:	-20 °C
Storage Comment:	Unopened vial can be stored between 2°C and 8°C for three months, at -20°C for six months, or at -70°C for one year.

Images



Flow Cytometry

Image 1.