Mouse Betacellulin/BTC Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1025

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse Betacellulin/BTC in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 10% cross-reactivity with recombinant human BTC is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant mouse Betacellulin/BTC Asp32-Gln118 Accession # Q543J8
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

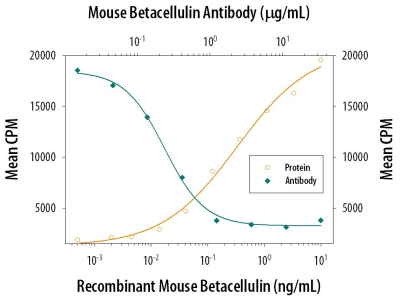
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Mouse Betacellulin/BTC (Catalog # 1025-CE)
Immunohistochemistry	5-15 µg/mL	Immersion fixed frozen sections of mouse lung and brain
Neutralization	Measured by its ability to neutralize Betacellulin/BTC-induced proliferation in the Balb/3T3 mouse embryonic fibroblast cell line. The Neutralization Dose (ND_{50}) is typically 0.1-0.4 µg/mL in the presence of 2 ng/mL Recombinant Mouse Betacellulin/BTC.	

DATA

Neutralization



Cell Proliferation Induced by Betacellulin/BTC and Neutralization by Mouse Betacellulin/BTC Antibody. Recombinant Mouse Betacellulin/BTC (Catalog # 1025-CE) stimulates proliferation in the Balb/3T3 mouse embryonic fibroblast cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Mouse Betacellulin/BTC (2 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Mouse Betacellulin/BTC Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1025). The ND_{50} is typically 0.1-0.4 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

Betacellulin (BTC) is a member of the EGF family of cytokines which includes EGF, TGF-α, amphiregulin, HB-EGF, epiregulin, tomoregulin and the neuregulins. All EGF famiy members are synthesized as type I transmembrane precursor proteins containing one or more EGF-like domains in their extracellular region (1). BTC, a heparin-binding protein, was originally isolated from the conditioned media of mouse pancreatic beta tumor cells as a 32 kDa glycoprotien (2). The mouse BTC cDNA encodes a 177 amino acid (aa) residue precursor with a 31 aa signal peptide, an 87 aa residue extracellular region containing one EGF-like domain, a 21 aa transmembrane domain and a 38 aa cytoplasmic domain. Soluble BTC is released from the transmembrane precursor by proteolytic processing (3). Mouse BTC shares 93% and 79% aa sequence identity with rat and human BTC, respectively (1). The mouse BTC gene is tightly linked to that of amphiregulin on mouse chromosome 5 (4). BTC is expressed in most tissues including kidney, uterus, liver and pancreas. It is also present in body fluids including serum, milk and colostrum (5). BTC promotes pancreatic beta-cell growth and differentiation (6) and is a potent mitogen for retinal pigment epithelial cells, vascular smooth muscle cells and fibroblasts (1). The effects of BTC is mediated by binding to ErbB1 and ErbB4 homodimers as well as ErbB heterodimers (1).

References:

1. Dunbar, A.J. and C. Goddard (2000) Int. J. Biochem. Cell Biol. **32**:805.
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4. Pathak, B.G. *et al*. (1995) Genomics **28**:116.
5. Bastian, S.E. *et al*. (2001) J. Endocrinol. **168**:203.
6. Li, L. *et al*. (2001) Endocrinology **142**:5379.

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