

**DESCRIPTION**

<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects Betacellulin/BTC in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human (rh) Androgen R, rhBetacellulin, rhEGF, rhHB-EGF, rhHRG- $\alpha$ , rhHRG- $\beta$ 1, rhTGF- $\alpha$ , recombinant mouse (rm) Epigen, or rmEpiregulin is observed.
<b>Source</b>	Monoclonal Rat IgG <sub>2A</sub> Clone # 197415
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant mouse Betacellulin/BTC Asp32-Gln118 Accession # Q05928
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 $\mu$ m 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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Western Blot</b>	1 $\mu$ g/mL	Recombinant Mouse Betacellulin/BTC (Catalog # 1025-CE)

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**BACKGROUND**

Betacellulin (BTC) is a member of the EGF family of cytokines which includes EGF, TGF- $\alpha$ , amphiregulin, HB-EGF, epiregulin, tomoregulin and the neuregulins. All EGF family 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 glycoprotein (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.
2. Shing, Y. *et al.* (1993) *Science* **259**:1604.
3. Tada, H. *et al.* (1999) *J. Cell Biochem.* **72**:423.
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.