

BTC (E-12): sc-514061

BACKGROUND

Betacellulin (BTC), a member of the epidermal growth factor (EGF) family, was originally identified as a growth-promoting factor in the conditioned medium of a mouse pancreatic-cell carcinoma (insulinoma) cell line and has since been identified in humans. BTC is synthesized as a large transmembrane precursor molecule that can be cleaved proteolytically to release the soluble form of BTC or function as membrane-anchored growth factors in juxtacrine signaling. BTC, in addition to stimulating homodimers of ErbB-1 and ErbB-4, is capable of binding and activating all possible combinations of heterodimeric ErbB receptors including the oncogenic ErbB-2/ErbB-3 complex. BTC is also expressed in some human malignancies and may have an important role in tumor growth progression.

REFERENCES

- Shing, Y., et al. 1993. Betacellulin: a mitogen from pancreatic β cell tumors. *Science* 259: 1604-1607.
- Sasada, R., et al. 1993. Cloning and expression of cDNA encoding human betacellulin, a new member of the EGF family. *Biochem. Biophys. Res. Commun.* 190: 1173-1179.
- Alimandi, M., et al. 1997. Epidermal growth factor and betacellulin mediate signal transduction through co-expressed ErbB-2 and ErbB-3 receptors. *EMBO J.* 16: 5608-5617.
- Pinkas-Kramarski, R., et al. 1998. The oncogenic ErbB-2/ErbB-3 heterodimer is a surrogate receptor of the epidermal growth factor and betacellulin. *Oncogene* 16: 1249-1258.
- Dunbar, A.J., et al. 1999. Identification of betacellulin as a major peptide growth factor in milk: purification, characterization and molecular cloning of bovine betacellulin. *Biochem. J.* 344: 713-721.
- Kawaguchi, M., et al. 2000. Auto-induction and growth stimulatory effect of betacellulin in human pancreatic cancer cells. *Int. J. Oncol.* 16: 37-41.

CHROMOSOMAL LOCATION

Genetic locus: BTC (human) mapping to 4q13.3; Btc (mouse) mapping to 5 E2.

SOURCE

BTC (E-12) is a mouse monoclonal antibody raised against amino acids 1-178 representing full length BTC of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

BTC (E-12) is available conjugated to agarose (sc-514061 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-514061 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514061 PE), fluorescein (sc-514061 FITC), Alexa Fluor® 488 (sc-514061 AF488), Alexa Fluor® 594 (sc-514061 AF594) or Alexa Fluor® 647 (sc-514061 AF647), 200 μ g/ml, for IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514061 AF680) or Alexa Fluor® 790 (sc-514061 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

BTC (E-12) is recommended for detection of BTC of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BTC siRNA (h): sc-39414, BTC siRNA (m): sc-39415, BTC shRNA Plasmid (h): sc-39414-SH, BTC shRNA Plasmid (m): sc-39415-SH, BTC shRNA (h) Lentiviral Particles: sc-39414-V and BTC shRNA (m) Lentiviral Particles: sc-39415-V.

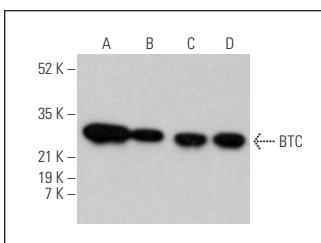
Molecular Weight of BTC: 18 kDa.

Positive Controls: PC-3 cell lysate: sc-2220, HL-60 whole cell lysate: sc-2209 or KNRK whole cell lysate: sc-2214.

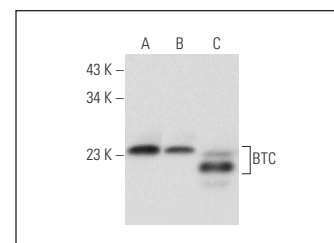
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



BTC (E-12): sc-514061. Western blot analysis of BTC expression in PC-3 (A), MDA-MB-231 (B), HeLa (C) and OVCAR-3 (D) whole cell lysates.



BTC (E-12): sc-514061. Western blot analysis of BTC expression in PC-3 (A), HL-60 (B) and KNRK (C) whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.