SANTA CRUZ BIOTECHNOLOGY, INC.

Btk (C-20): sc-1107

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The Tec family of non-receptor tyrosine kinases is composed of six proteins designated Tec, Emt (also known as Itk or Tsk), Btk (previously known as Atk, BPK or Emb), Bmx, Txk (also known as Rlk) and Dsrc28C. All members of the family contain SH3 and SH2 domains and, with the exception of Txk and Dsrc28C, also contain a pleckstrin homology (PH) and a Tec homology (TH) domain in their amino termini. Four alternatively spliced forms of Tec are found to be expressed broadly in cells of hematopoietic lineage and hepatocytes. The Emt gene product associates with CD28 and becomes activated subsequent to CD28 ligation. Btk is necessary for proper B cell development, and mutations in the gene encoding Btk have been associated with families suffering from X-linked agammaglobulinemia, also referred to as Bruton's disease. The Bmx protein shares a high degree of homology with Btk and seems to be expressed at highest levels in the heart. Txk expression is T cell-specific, while expression of the *Drosophila* Tec homolog, Dsrc28C, is developmentally regulated.

CHROMOSOMAL LOCATION

Genetic locus: BTK (human) mapping to Xq22.1; Btk (mouse) mapping to X E3.

SOURCE

Btk (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Btk of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-1107 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Btk (C-20) is recommended for detection of Btk of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

Btk (C-20) is also recommended for detection of Btk in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Btk siRNA (h): sc-29841, Btk siRNA (m): sc-29842, Btk shRNA Plasmid (h): sc-29841-SH, Btk shRNA Plasmid (m): sc-29842-SH, Btk shRNA (h) Lentiviral Particles: sc-29841-V and Btk shRNA (m) Lentiviral Particles: sc-29842-V.

Molecular Weight of Btk: 77 kDa.

Positive Controls: MEG-01 cell lysate: sc-2283, NAMALWA cell lysate: sc-2234 or BJAB whole cell lysate: sc-2207.

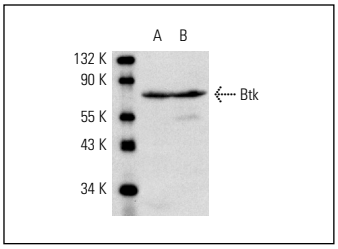
RESEARCH USE

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

STORAGE

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

DATA



Btk (C-20): sc-1107. Western blot analysis of Btk expression in MEG-01 (**A**) and NAMALWA (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ma, Y.C., et al. 1998. Identification of the binding site for G_q on its effector Bruton's tyrosine kinase. Proc. Natl. Acad. Sci. USA 95: 12197-12201.
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4. Schmidt, U., et al. 2004. Btk is required for an efficient response to erythropoietin and for SCF-controlled protection against TRAIL in erythroid progenitors. J. Exp. Med. 199: 785-795.
5. Pula, G., et al. 2005. Functional interaction of protein kinase Cα with the tyrosine kinases Syk and Src in human platelets. J. Biol. Chem. 280: 7194-7205.
6. Rajaiya, J., et al. 2006. Induction of immunoglobulin heavy-chain transcription through the transcription factor Bright requires TFII-I. Mol. Cell. Biol. 26: 4758-4768.
7. Popa-Nita, O., et al. 2008. Crystal-induced neutrophil activation: X. Proinflammatory role of the tyrosine kinase Tec. Arthritis Rheum. 58: 1866-1876.
8. Matsuda, S., et al. 2009. Critical role of class IA PI3K for c-Rel expression in B lymphocytes. Blood 113: 1037-1044.
9. Li, Y., et al. 2011. Highly efficient purification of protein complexes from mammalian cells using a novel streptavidin-binding peptide and hexahistidine tandem tag system: application to Bruton's tyrosine kinase. Protein Sci. 20: 140-149.