

Btk (N-20): sc-1108

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 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-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-1108 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Btk (N-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), immunohistochemistry (including paraffin-embedded sections) (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 (N-20) is also recommended for detection of Btk in additional species, including equine, canine, bovine, porcine and avian.

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.

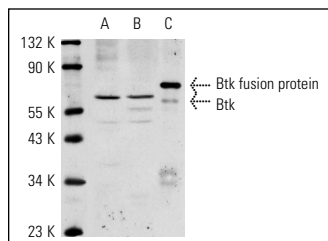
Molecular Weight of Btk: 77 kDa.

Positive Controls: MEG-01 cell lysate: sc-2283, NAMALWA cell lysate: sc-2234 or K-562 whole cell lysate: sc-2203.

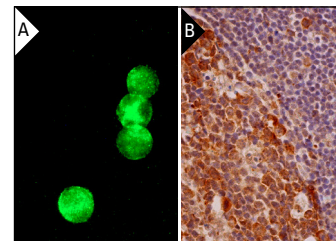
STORAGE

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

DATA



Btk (N-20): sc-1108. Western blot analysis of Btk expression in NIH/3T3 cells transfected with a Btk construct (A), U-937 cell line (B) and mouse recombinant Btk fusion protein (C).



Btk (N-20): sc-1108. Immunofluorescence staining of methanol-fixed NAMALWA cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing cytoplasmic staining of cells in germinal centers and cells in non-germinal centers (B).

SELECT PRODUCT CITATIONS

1. Vassilev, A., et al. 1999. Bruton's tyrosine kinase as an inhibitor of the Fas/CD95 death-inducing signaling complex. *J. Biol. Chem.* 274: 1646-1656.
2. Wang, D., et al. 2000. Phospholipase Cγ2 is essential in the functions of B cell and several Fc receptors. *Immunity* 13: 25-35.
3. Goodman, P.A., et al. 2003. Defective expression of Bruton's tyrosine kinase in acute lymphoblastic leukemia. *Leuk. Lymphoma* 44: 1011-1018.
4. Redondo, P.C., et al. 2005. Ca²⁺-independent activation of Bruton's tyrosine kinase is required for store-mediated Ca²⁺ entry in human platelets. *Cell. Signal.* 17: 1011-1021.
5. Rosado, J.A., et al. 2006. Early caspase-3 activation independent of apoptosis is required for cellular function. *J. Cell. Physiol.* 209: 142-152.

RESEARCH USE

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

PROTOCOLS

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



Try **Btk (E-9): sc-28387** or **Btk (DFW): sc-81736**, our highly recommended monoclonal alternatives to Btk (N-20). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Btk (E-9): sc-28387**.