

Bmx (40): sc-136215

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.

REFERENCES

1. Yamada, N., Kawakami, Y., Kimura, H., Fukamachi, H., Baier, G., Altman, A., Kato, T., Inagaki, Y. and Kawakami, T. 1993. Structure and expression of novel protein tyrosine kinases, Emb and Emt, in hematopoietic cells. *Biochem. Biophys. Res. Commun.* 192: 231-240.
2. Thomas, J.D., Sideras, P., Smith, C.I., Vorechovský, I., Chapman, V. and Paul, W.E. 1993. Colocalization of X-linked agammaglobulinemia and X-linked immunodeficiency genes. *Science* 261: 355-358.
3. Tamagnone, L., Lahtinen, I., Mustonen, T., Virtaneva, K., Francis, F., Muscatelli, F., Alitalo, R., Smith, C.I., Larsson, C. and Alitalo, K. 1994. Bmx, a novel nonreceptor tyrosine kinase gene of the Btk/Itk/Tec/Txk family located in chromosome Xp22.2. *Oncogene* 9: 3683-3688.
4. Haire, R.N., Ohta, Y., Lewis, J.E., Fu, S.M., Kroisel, P. and Litman, G.W. 1994. Txk, a novel human tyrosine kinase expressed in T cells shares sequence identity with Tec family kinases and maps to 4p12. *Hum. Mol. Genet.* 3: 897-901.
5. August, A., Gibson, S., Kawakami, Y., Kawakami, T., Mills, G.B. and Dupont, B. 1994. CD28 is associated with and induces the immediate tyrosine phosphorylation and activation of the Tec family kinase Itk/Emt in the human Jurkat leukemic T-cell line. *Proc. Natl. Acad. Sci. USA* 91: 9347-9351.
6. Hu, Q., Davidson, D., Schwartzberg, P.L., Macchiarini, F., Lenardo, M.J., Bluestone, J.A. and Matis, L.A. 1995. Identification of Rlk, a novel protein tyrosine kinase with predominant expression in the T cell lineage. *J. Biol. Chem.* 270: 1928-1934.

CHROMOSOMAL LOCATION

Genetic locus: BMX (human) mapping to Xp22.2; Bmx (mouse) mapping to X F5.

SOURCE

Bmx (40) is a mouse monoclonal antibody raised against amino acids 138-276 of Bmx of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-136215 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

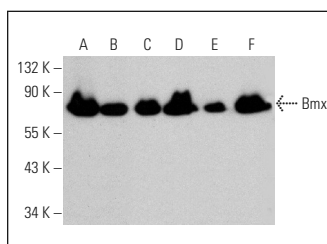
Bmx (40) is recommended for detection of Bmx of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Bmx siRNA (h): sc-38941, Bmx siRNA (m): sc-38942, Bmx shRNA Plasmid (h): sc-38941-SH, Bmx shRNA Plasmid (m): sc-38942-SH, Bmx shRNA (h) Lentiviral Particles: sc-38941-V and Bmx shRNA (m) Lentiviral Particles: sc-38942-V.

Molecular Weight of Bmx: 85 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, ECV304 cell lysate: sc-2269 or SK-MEL-28 cell lysate: sc-2236.

DATA



Bmx (40): sc-136215. Western blot analysis of Bmx expression in Jurkat (A), ECV304 (B), SK-MEL-28 (C), RAW 264.7 (D), F9 (E) and RBL-1 (F) 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. Not for resale.

PROTOCOLS

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