

Emt (2F12): sc-23902

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 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: ITK (human) mapping to 5q33.3; Itk (mouse) mapping to 11 B1.1.

SOURCE

Emt (2F12) is a mouse monoclonal antibody raised against amino acids 1-26 of Emt of mouse origin.

PRODUCT

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

Emt (2F12) is available conjugated to agarose (sc-23902 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-23902 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-23902 PE), fluorescein (sc-23902 FITC), Alexa Fluor[®] 488 (sc-23902 AF488), Alexa Fluor[®] 546 (sc-23902 AF546), Alexa Fluor[®] 594 (sc-23902 AF594) or Alexa Fluor[®] 647 (sc-23902 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-23902 AF680) or Alexa Fluor[®] 790 (sc-23902 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Emt (2F12) is recommended for detection of Emt 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 kinase assay.

Suitable for use as control antibody for Emt siRNA (h): sc-35300, Emt siRNA (m): sc-35301, Emt shRNA Plasmid (h): sc-35300-SH, Emt shRNA Plasmid (m): sc-35301-SH, Emt shRNA (h) Lentiviral Particles: sc-35300-V and Emt shRNA (m) Lentiviral Particles: sc-35301-V.

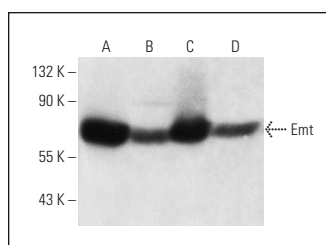
Molecular Weight of Emt: 72 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, HuT 78 whole cell lysate: sc-2208 or CTLL-2 cell lysate: sc-2242.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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).

DATA



Emt (2F12): sc-23902. Western blot analysis of Emt expression in Jurkat (A), Hut 78 (B), CTLL-2 (C) and TK-1 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Beach, D., et al. 2007. Dual role of SLP-76 in mediating T cell receptor-induced activation of phospholipase C-γ1. *J. Biol. Chem.* 282: 2937-2946.
2. Spatuzza, C., et al. 2008. Physical and functional characterization of the genetic locus of IBtk, an inhibitor of Bruton's tyrosine kinase: evidence for three protein isoforms of IBtk. *Nucleic Acids Res.* 36: 4402-4416.
3. Pechloff, K., et al. 2010. The fusion kinase ITK-SYK mimics a T cell receptor signal and drives oncogenesis in conditional mouse models of peripheral T cell lymphoma. *J. Exp. Med.* 207: 1031-1044.
4. Tarafdar, S., et al. 2014. The accessory factor Nef links HIV-1 to Tec/Btk kinases in an Src homology 3 domain-dependent manner. *J. Biol. Chem.* 289: 15718-15728.
5. Voisinne, G., et al. 2019. Quantitative interactomics in primary T cells unveils TCR signal diversification extent and dynamics. *Nat. Immunol.* 20: 1530-1541.
6. Wei, L., et al. 2020. miRNA-199b-3p suppresses growth and progression of ovarian cancer via the CHK1/E-cadherin/Emt signaling pathway by targeting ZEB1. *Oncol. Rep.* 45: 569-581.

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.