

Sab (T-17): sc-10166

BACKGROUND

Sab is a Src homology 3 domain (SH3) binding protein that preferentially associates with Bruton's tyrosine kinase, Btk, over other related tyrosine kinases. Btk, together with Itk, Tec, Txk, and Bmx, is a member of a family of cytoplasmic tyrosine kinases (the Btk/Tec family). Btk is a B-cell specific kinase that is crucial for human and murine B cell development, and its deficiency causes human X-linked agammaglobulinemia and murine X-linked immunodeficiency. Sab serves as a negative regulator of Btk kinase activity and Sab binding to Btk reduces the phosphorylation of Btk substrates and also inhibits Btk-induced auto-phosphorylation in B-cells. The SH3 domain of Sab directly binds to the SH3 domain of Btk and this interaction is essential for the regulatory activity of Sab. Sab is more broadly expressed than Btk, suggesting that Sab may target additional protein kinases that are specific to various tissues.

REFERENCES

1. Wahl, M.I., et al. 1997. Phosphorylation of two regulatory tyrosine residues in the activation of Bruton's tyrosine kinase via alternative receptors. *Proc. Natl. Acad. Sci. USA* 94: 11526-11533.
2. Matsushita, M., et al. 1998. Identification and characterization of a novel SH3-domain binding protein, Sab, which preferentially associates with Bruton's tyrosine kinase (Btk). *Biochem. Biophys. Res. Commun.* 245: 337-343.
3. Satterthwaite, A.B., et al. 1998. Btk function in B cell development and response. *Semin. Immunol.* 10: 309-316.
4. Kawakami, Y., et al. 1999. Functions of Bruton's tyrosine kinase in mast and B cells. *J. Leukoc. Biol.* 65: 286-290.
5. Yamadori, T., et al. 1999. Bruton's tyrosine kinase activity is negatively regulated by Sab, the Btk-SH3 domain-binding protein. *Proc. Natl. Acad. Sci. USA* 96: 6341-6346.

CHROMOSOMAL LOCATION

Genetic locus: SH3BP5 (human) mapping to 3p25.1; Sh3bp5 (mouse) mapping to 14 B.

SOURCE

Sab (T-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Sab 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-10166 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Sab (T-17) is recommended for detection of Sab of mouse, rat and human origin by 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).

Sab (T-17) is also recommended for detection of Sab in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Sab siRNA (h): sc-106528, Sab siRNA (m): sc-153196, Sab shRNA Plasmid (h): sc-106528-SH, Sab shRNA Plasmid (m): sc-153196-SH, Sab shRNA (h) Lentiviral Particles: sc-106528-V and Sab shRNA (m) Lentiviral Particles: sc-153196-V.

Molecular Weight of Sab: 70 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201 or Raji whole cell lysate: sc-364236.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



Sab (T-17): sc-10166. Immunoperoxidase staining of formalin fixed, paraffin-embedded human prostate tissue showing cytoplasmic staining of glandular cells.

RESEARCH USE

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



Try **Sab (A-3): sc-390512** or **Sab (PL-A23): sc-135617**, our highly recommended monoclonal alternatives to Sab (T-17).