

# Sab (A-3): sc-390512



The Power to Question

## 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. Morrogh, L.M., et al. 1999. The SH3 domain of Bruton's tyrosine kinase displays altered ligand binding properties when auto-phosphorylated *in vitro*. *Eur. J. Immunol.* 29: 2269-2279.

## CHROMOSOMAL LOCATION

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

## SOURCE

Sab (A-3) is a mouse monoclonal antibody raised against amino acids 45-157 mapping near the N-terminus of Sab of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Sab (A-3) is available conjugated to agarose (sc-390512 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390512 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390512 PE), fluorescein (sc-390512 FITC), Alexa Fluor® 488 (sc-390512 AF488), Alexa Fluor® 546 (sc-390512 AF546), Alexa Fluor® 594 (sc-390512 AF594) or Alexa Fluor® 647 (sc-390512 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390512 AF680) or Alexa Fluor® 790 (sc-390512 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

Sab (A-3) is recommended for detection of Sab of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Sab (A-3) is also recommended for detection of Sab in additional species, including equine and canine.

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.

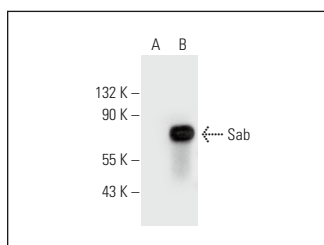
Molecular Weight of Sab: 70 kDa.

Positive Controls: Sab (h2): 293T Lysate: sc-171068.

## 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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



Sab (A-3): sc-390512. Western blot analysis of Sab expression in non-transfected: sc-117752 (A) and human Sab transfected: sc-171068 (B) 293T 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.