SANTA CRUZ BIOTECHNOLOGY, INC.

3BP2 (C-5): sc-166459

BACKGROUND

3BP2 is a Syk family kinase-interacting protein (SKIP) that is expressed in spleen and peripheral blood leukocytes. 3BP2 was originally characterized as an Abl SH3-interacting protein, as it contains a single proline-rich domain and an SH2 domain, consistent with other adaptor molecules. In Jurkat T cells transfected with 3BP2, stimulation of T cell receptors (TCR) rapidly induces the redistribution of 3BP2 from the cytoplasm to the membrane, where it associates with the TCR protein tyrosine kinase complexes. Through this translocation, 3BP2 is able to selectively bind to Flt3/Flk2 receptors and to the phosphorylated Syk, LAT and ZAP-70 proteins. In T lymphocytes, the overexpression of 3BP2, specifically the overexpression of the SH2 and proline rich domains, is sufficient to induce the activation of several transcription factors, including NFAT and AP-1. This transactivation results in the upregulation of the IL-2 gene promoter and suggests a role for 3BP2 in mediating T cell signaling.

REFERENCES

1. Ren, R., et al. 1993. Identification of a ten-amino acid proline-rich SH3 binding site. Science 259: 1157-1161.
2. Songyang, Z., et al. 1994. Specific motifs recognized by the SH2 domains of Csk, 3BP2, Fps/Fes, GRB2, HCP, Shc, Syk, and Vav. Mol. Cell. Biol. 14: 2777-2785.

CHROMOSOMAL LOCATION

Genetic locus: SH3BP2 (human) mapping to 4p16.3; Sh3bp2 (mouse) mapping to 5 B2.

SOURCE

3BP2 (C-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 532-561 at the C-terminus of 3BP2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

3BP2 (C-5) is available conjugated to agarose (sc-166459 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166459 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166459 PE), fluorescein (sc-166459 FITC), Alexa Fluor® 488 (sc-166459 AF488), Alexa Fluor® 546 (sc-166459 AF546), Alexa Fluor® 594 (sc-166459 AF594) or Alexa Fluor® 647 (sc-166459 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166459 AF680) or Alexa Fluor® 790 (sc-166459 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166459 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

3BP2 (C-5) is recommended for detection of 3BP2 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).

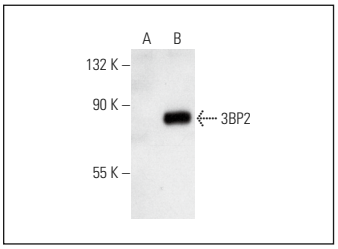
Suitable for use as control antibody for 3BP2 siRNA (h): sc-40289, 3BP2 siRNA (m): sc-40290, 3BP2 shRNA Plasmid (h): sc-40289-SH, 3BP2 shRNA Plasmid (m): sc-40290-SH, 3BP2 shRNA (h) Lentiviral Particles: sc-40289-V and 3BP2 shRNA (m) Lentiviral Particles: sc-40290-V.

Molecular Weight (predicted) of 3BP2 isoforms: 62/11/65 kDa.

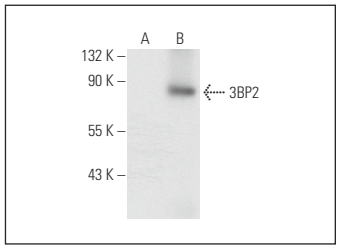
Molecular Weight (observed) of 3BP2: 65-80 kDa.

Positive Controls: 3BP2 (m): 293T Lysate: sc-117986, 3BP2 (h): 293T Lysate: sc-113954 or COLO 320DM cell lysate: sc-2226.

DATA



3BP2 (C-5): sc-166459. Western blot analysis of 3BP2 expression in non-transfected: sc-117752 (**A**) and mouse 3BP2 transfected: sc-117986 (**B**) 293T whole cell lysates.



3BP2 (C-5): sc-166459. Western blot analysis of 3BP2 expression in non-transfected: sc-117752 (**A**) and human 3BP2 transfected: sc-113954 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Chihara, K., et al. 2017. Syk-dependent tyrosine phosphorylation of 3BP2 is required for optimal FcRγ-mediated phagocytosis and chemokine expression in U937 cells. Sci. Rep. 7: 11480.
2. Serrano-Candelas, E., et al. 2018. Silencing of adaptor protein SH3BP2 reduces KIT/PDGFRA receptors expression and impairs gastrointestinal stromal tumors growth. Mol. Oncol. 12: 1383-1397.
3. Navinés-Ferrer, A., et al. 2019. Myo1f, an unconventional long-tailed myosin, is a new partner for the adaptor 3BP2 involved in mast cell migration. Front. Immunol. 10: 1058.
4. Proaño-Pérez, E., et al. 2022. SH3BP2 silencing increases miRNAs targeting ETV1 and microphthalmia-associated transcription factor, decreasing the proliferation of gastrointestinal stromal tumors. Cancers 14: 6198.
5. Proaño-Pérez, E., et al. 2023. MITF downregulation induces death in human mast cell leukemia cells and Impairs IgE-dependent degranulation. Int. J. Mol. Sci. 24: 3515.

RESEARCH USE

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