

Spi-B (4G5B3): sc-517204

BACKGROUND

The Ets transcription factor family (Ets-1, Ets-2, Erg-1–3, Elk-1, Elf-1, Elf-5, NERF, PU.1, PEAK3, ERM, FEV, ER81, Fli-1, TEL, Spi-B, ESE-1, ESE-3A, Net, ABT1 and ERF) are DNA-binding proteins that influence lymphoid development and activity. The Ets family monomeric proteins bind the consensus DNA site GGA(A/T) through a unique winged helix-turn-helix motif known as the Ets domain. PU.1 (Spi-1/Spi-A), Spi-B and Spi-C are closely related Ets family members which share a conserved divergent sequence within the Ets domain that enables their binding to the non-canonical AGAA sites. PU.1 transactivates a large number of B cell genes, such as those encoding CD72, CD20 and Btk, and Spi-B enhances expression of many of these same target genes. PU.1 is expressed in a wide variety of hematopoietic cells, including B cells, early T-cells, megakaryocytes, granulocytes, mast cells, immature erythrocytes and myeloid cells. Alternatively, Spi-B expression is limited to B cells and immature T cells, where expression accumulates through T-lineage commitment and then is dramatically absent following the β -selection checkpoint.

REFERENCES

1. Kola, I., et al. 1993. The Ets-1 transcription factor is widely expressed during murine embryo development and is associated with mesodermal cells involved in morphogenetic processes such as organ formation. *Proc. Natl. Acad. Sci. USA* 90: 7588-7592.
2. Chen, H., et al. 1995. PU.1 (Spi-1) autoregulates its expression in myeloid cells. *Oncogene* 11: 1549-1560.
3. Chen, H.M., et al. 1995. Neutrophils and monocytes express high levels of PU.1 (Spi-1) but not Spi-B. *Blood* 85: 2918-2928.
4. Su, G.H., et al. 1996. The Ets protein Spi-B is expressed exclusively in B cells and T cells during development. *J. Exp. Med.* 184: 203-214.
5. Anderson, M.K., et al. 1999. Precise developmental regulation of Ets family transcription factors during specification and commitment to the T cell lineage. *Development* 126: 3131-3148.
6. Bemak, M., et al. 1999. Spi-C, a novel Ets protein that is temporally regulated during B lymphocyte development. *J. Biol. Chem.* 274: 10259-10267.

CHROMOSOMAL LOCATION

Genetic locus: SPIB (human) mapping to 19q13.33; Spib (mouse) mapping to 7 B4.

SOURCE

Spi-B (4G5B3) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 200-252 of Spi-B of human origin.

PRODUCT

Each vial contains 50 μ g IgG₁ kappa light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

Spi-B (4G5B3) is recommended for detection of Spi-B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), flow cytometry (1 μ g per 1 x 10⁶ cells) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Spi-B siRNA (h): sc-37869, Spi-B siRNA (m): sc-37870, Spi-B shRNA Plasmid (h): sc-37869-SH, Spi-B shRNA Plasmid (m): sc-37870-SH, Spi-B shRNA (h) Lentiviral Particles: sc-37869-V and Spi-B shRNA (m) Lentiviral Particles: sc-37870-V.

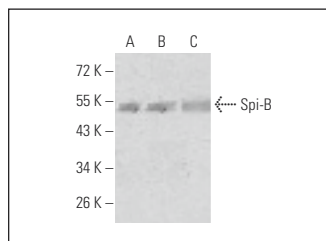
Molecular Weight of Spi-B: 46 kDa.

Positive Controls: A549 cell lysate: sc-2413, PC-3 cell lysate: sc-2220 or NIH/3T3 whole cell lysate: sc-2210.

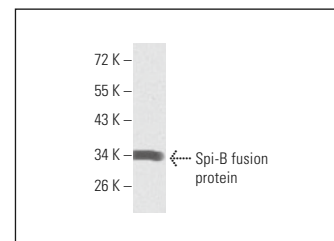
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



Spi-B (4G5B3): sc-517204. Western blot analysis of Spi-B expression in A549 (A), PC-3 (B) and NIH/3T3 (C) whole cell lysates.



Spi-B (4G5B3): sc-517204. Western blot analysis of human recombinant Spi-B (200-252) fusion protein.

SELECT PRODUCT CITATIONS

1. Spriano, F., et al. 2019. The ETS inhibitors YK-4-279 and TK-216 are novel antilymphoma agents. *Clin. Cancer Res.* 25: 5167-5176.
2. Zhao, J., et al. 2023. TIGIT-Fc fusion protein alleviates murine lupus nephritis through the regulation of SPI-B-PAX5-XBP1 axis-mediated B-cell differentiation. *J. Autoimmun.* 139: 103087.

RESEARCH USE

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