

# Spi-B (L-15): sc-5945

## BACKGROUND

The Ets transcription factor family (Ets-1, Ets-2, Erg-1-3, Elk-1, Elf-1, Elf-5, NERF, PU.1, PEA3, 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  $\beta$ -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. Garrett-Sinha, L.A., et al. 1999. PU.1 and Spi-B are required for normal B cell receptor-mediated signal transduction. *Immunity* 10: 399-408.
7. Rao, S., et al. 1999. The Ets factors PU.1 and Spi-B regulate the transcription *in vivo* of P2Y10, a lymphoid restricted heptahelical receptor. *J. Biol. Chem.* 274: 34245-34252.

## CHROMOSOMAL LOCATION

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

## SOURCE

Spi-B (L-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Spi-B of human origin.

## STORAGE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-5945 X, 200  $\mu$ g/0.1 ml.

Blocking peptide available for competition studies, sc-5945 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

Spi-B (L-15) 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  $\mu$ g per 100-500  $\mu$ g 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).

Spi-B (L-15) is also recommended for detection of Spi-B in additional species, including canine, bovine and porcine.

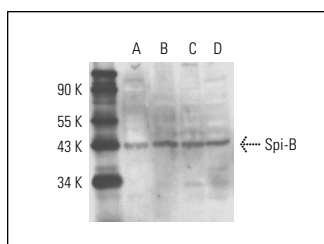
Suitable for use as control antibody for Spi-B siRNA (h): sc-37869, Spi-B siRNA (m): sc-37870, Spi-B shRNA Plasmid (h): sc-37869-SH, Spi-B shRNA Plasmid (m): sc-37870-SH, Spi-B shRNA (h) Lentiviral Particles: sc-37869-V and Spi-B shRNA (m) Lentiviral Particles: sc-37870-V.

Spi-B (L-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

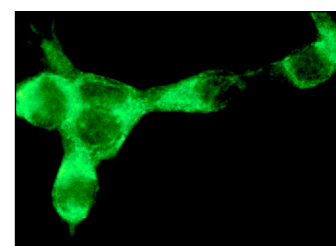
Molecular Weight of Spi-B: 46 kDa.

Positive Controls: WEHI-231 whole cell lysate: sc-2213, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

## DATA



Spi-B (L-15): sc-5945. Western blot analysis of Spi-B expression in WEHI-231 nuclear extract (A) and Jurkat (B), Raji (C) and K-562 (D) whole cell lysates.



Spi-B (L-15): sc-5945. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

## RESEARCH USE

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



Try **Spi-B (4G5B3): sc-517204**, our highly recommended monoclonal alternative to Spi-B (L-15).