SANTA CRUZ BIOTECHNOLOGY, INC.

PU.1 (B-9): sc-390659

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 hematopoetic 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.

CHROMOSOMAL LOCATION

Genetic locus: SPI1 (human) mapping to 11p11.2; Sfpi1 (mouse) mapping to 2 E1.

SOURCE

PU.1 (B-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 239-271 at the C-terminus of PU.1 of mouse 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-390659 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-390659 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PU.1 (B-9) is recommended for detection of PU.1 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), 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).

Suitable for use as control antibody for PU.1 siRNA (h): sc-36330, PU.1 siRNA (m): sc-36331, PU.1 shRNA Plasmid (h): sc-36330-SH, PU.1 shRNA Plasmid (m): sc-36331-SH, PU.1 shRNA (h) Lentiviral Particles: sc-36330-V and PU.1 shRNA (m) Lentiviral Particles: sc-36331-V.

PU.1 (B-9) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

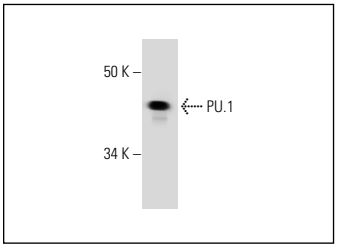
Molecular Weight of PU.1: 40 kDa.

Positive Controls: K-562 nuclear extract: sc-2130.

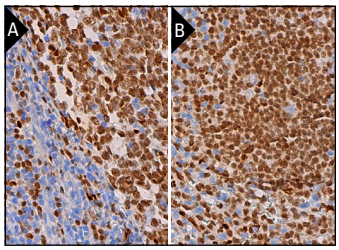
RECOMMENDED SUPPORT REAGENTS

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. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



PU.1 (B-9): sc-390659. Western blot analysis of PU.1 expression in K-562 nuclear extract.



PU.1 (B-9): sc-390659. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of cells in germinal center and subset of cells in non-germinal center (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human spleen tissue showing nuclear staining of cells in white pulp and cells in red pulp (**B**).

SELECT PRODUCT CITATIONS

1. Lu, Y., et al. 2018. Th9 cells represent a unique subset of $CD4^+$ T cells endowed with the ability to eradicate advanced tumors. Cancer Cell 33: 1048-1060.e7.
2. Cai, L., et al. 2019. Effect of Th9/IL-9 on the growth of gastric cancer in nude mice. Onco Targets Ther. 12: 2225-2234.
3. Li, M., et al. 2021. Regulation of MYB by distal enhancer elements in human myeloid leukemia. Cell Death Dis. 12: 223.

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.

CONJUGATES

See **PU.1 (C-3): sc-390405** for PU.1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.