SANTA CRUZ BIOTECHNOLOGY, INC.

PU.1 (A-7): sc-365208

BACKGROUND

The Ets transcription factor family (Ets-1, Ets-2, Erg-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.

SOURCE

PU.1 (A-7) is a mouse monoclonal antibody raised against amino acids 1-135 of PU.1 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-365208 X, 200 µg/0.1 ml.

APPLICATIONS

PU.1 (A-7) is recommended for detection of PU.1 of 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 shRNA Plasmid (h): sc-36330-SH and PU.1 shRNA (h) Lentiviral Particles: sc-36330-V.

PU.1 (A-7) 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, U-698-M whole cell lysate: sc-364799 or THP-1 cell lysate: sc-2238.

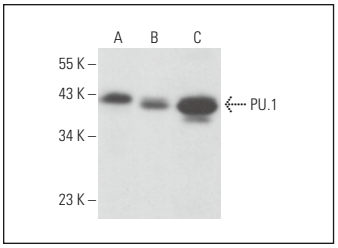
STORAGE

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

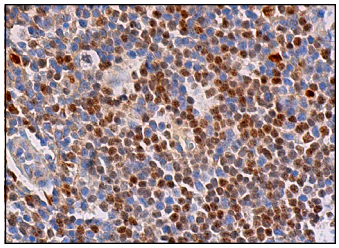
RESEARCH USE

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

DATA



PU.1 (A-7): sc-365208. Western blot analysis of PU.1 expression in K-562 nuclear extract (**A**) and U-698-M (**B**) and THP-1 (**C**) whole cell lysates.



PU.1 (A-7): sc-365208. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of subset of cells in non-germinal center.

SELECT PRODUCT CITATIONS

1. Li, H., et al. 2016. Characterization of KIR intermediate promoters reveals four promoter types associated with distinct expression patterns of KIR subtypes. Genes Immun. 17: 66-74.
2. Song, G., et al. 2016. A novel PAD4/SOX4/PU.1 signaling pathway is involved in the committed differentiation of acute promyelocytic leukemia cells into granulocytic cells. Oncotarget 7: 3144-3157.
3. Lina, T.T., et al. 2016. *Ehrlichia chaffeensis* TRP120 activates canonical notch signaling to downregulate TLR2/4 expression and promote intracellular survival. MBio 7: e00672-16.
4. Haimovici, A., et al. 2017. PU.1 supports TRAIL-induced cell death by inhibiting NFκB-mediated cell survival and inducing DR5 expression. Cell Death Differ. 24: 866-877.
5. Tao, L., et al. 2020. Long noncoding RNA SNHG16 promotes the tumorigenicity of cervical cancer cells by recruiting transcriptional factor SPI1 to upregulate PARP9. Cell Biol. Int. 44: 773-784.
6. Zuo, F., et al. 2021. Long noncoding RNA NR2F1-AS1 plays a carcinogenic role in gastric cancer by recruiting transcriptional factor SPI1 to upregulate ST8SIA1 expression. Bioengineered 12: 12345-12356.
7. Liu, M., et al. 2023. Role of triggering receptor expressed on myeloid cells-1 in the mechanotransduction signaling pathways that link low shear stress with inflammation. Sci. Rep. 13: 4656.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

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.