SANTA CRUZ BIOTECHNOLOGY, INC.

PU.1 (N-19): sc-5972

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The Power to Question

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, ER8I, 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.

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.M., et al. 1995. Neutrophils and monocytes express high levels of PU.1 (Spi-1) but not Spi-B. Blood 85: 2918-2928.
3. Chen, H., et al. 1995. PU.1 (Spi-1) autoregulates its expression in myeloid cells. Oncogene 11: 1549-1560.
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. 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.

CHROMOSOMAL LOCATION

Genetic locus: SPI1 (human) mapping to 11p11.2.

SOURCE

PU.1 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of PU.1 of human origin.

PRODUCT

Each vial contains 200 µg 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-5972 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-5972 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

PU.1 (N-19) is recommended for detection of PU.1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

PU.1 (N-19) is also recommended for detection of PU.1 in additional species, including equine, canine, bovine and porcine.

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 (N-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of PU.1: 40 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132 or K-562 nuclear extract: sc-2130.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Du, J., et al. 2002. Novel combinatorial interactions of GATA-1, PU.1, and C/EBP ε isoforms regulate transcription of the gene encoding eosinophil granule major basic protein. J. Biol. Chem. 277: 43481-43494.
2. Lehtonen, A., et al. 2005. Differential expression of IFN regulatory factor 4 gene in human monocyte-derived dendritic cells and macrophages. J. Immunol. 175: 6570-6579.
3. Tissieres, P., et al. 2009. Cooperation between PU.1 and CAAT/enhancer-binding protein β is necessary to induce the expression of the MD-2 gene. J. Biol. Chem. 284: 26261-26272.

RESEARCH USE

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