

PU.1 (C-3): sc-390405

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 β -selection checkpoint.

CHROMOSOMAL LOCATION

Genetic locus: SP11 (human) mapping to 11p11.2; Spi1 (mouse) mapping to 2 E1.

SOURCE

PU.1 (C-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 25-63 near the N-terminus of PU.1 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG₁ 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-390405 X, 200 μ g/0.1 ml.

PU.1 (C-3) is available conjugated to agarose (sc-390405 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390405 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390405 PE), fluorescein (sc-390405 FITC), Alexa Fluor[®] 488 (sc-390405 AF488), Alexa Fluor[®] 546 (sc-390405 AF546), Alexa Fluor[®] 594 (sc-390405 AF594) or Alexa Fluor[®] 647 (sc-390405 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-390405 AF680) or Alexa Fluor[®] 790 (sc-390405 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390405 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

PROTOCOLS

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

APPLICATIONS

PU.1 (C-3) 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 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), 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).

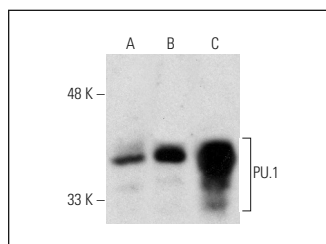
Suitable for use as control antibody for PU.1 siRNA (h): sc-36330, PU.1 siRNA (m): sc-36331, PU.1 shRNA Plasmid (h): sc-36330-SH, PU.1 shRNA Plasmid (m): sc-36331-SH, PU.1 shRNA (h) Lentiviral Particles: sc-36330-V and PU.1 shRNA (m) Lentiviral Particles: sc-36331-V.

PU.1 (C-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

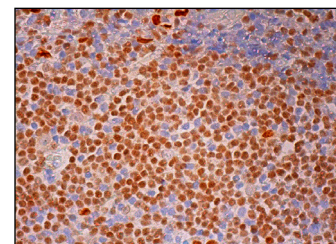
Molecular Weight of PU.1: 40 kDa.

Positive Controls: THP-1 cell lysate: sc-2238, RAW 264.7 nuclear extract: sc-24961 or MM-142 cell lysate: sc-2246.

DATA



PU.1 (C-3) HRP: sc-390405 HRP. Direct western blot analysis of PU.1 expression in MM-142 (A) and THP-1 (B) whole cell lysates and RAW 264.7 nuclear extract (C).



PU.1 (C-3): sc-390405. Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of cells in germinal center and cells in non-germinal center.

SELECT PRODUCT CITATIONS

1. Takagi, S., et al. 2019. Microglia are continuously activated in the circumventricular organs of mouse brain. *J. Neuroimmunol.* 331: 74-86.
2. Shin, E., et al. 2020. The Gata1^{low} murine megakaryocyte-erythroid progenitor cells expand robustly and alter differentiation potential. *Biochem. Biophys. Res. Commun.* 528: 46-53.
3. Stengel, K.R., et al. 2021. Definition of a small core transcriptional circuit regulated by AML1-ETO. *Mol. Cell* 81: 530-545.e5.
4. Chavez, J.S., et al. 2021. PU.1 enforces quiescence and limits hematopoietic stem cell expansion during inflammatory stress. *J. Exp. Med.* 218: e20201169.
5. Ngo, S., et al. 2021. Acute myeloid leukemia maturation lineage influences residual disease and relapse following differentiation therapy. *Nat. Commun.* 12: 6546.

RESEARCH USE

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