

Pax-5 (E-9): sc-55515

BACKGROUND

The Pax family of nuclear transcription factors is comprised of nine members that function during embryogenesis to regulate the temporal and position-dependent differentiation of cells. Pax family genes are also involved in a variety of signal transduction pathways in the adult organism. Mutations in Pax proteins have been linked to disease and cancer in humans. For example, the human PAX5 gene encodes a B cell lineage-specific protein, Pax-5, also designated B cell specific activator protein or BSAP, which is expressed in pro-B, pre-B and mature B lymphocytes but not in plasma cells. Pax-5 functions to regulate not only B cell development, but also influences the balance between immunoglobulin secretion and B cell proliferation. Overexpression of Pax-5 has been implicated in cellular transformation, and in the case of small lymphocytic lymphomas with plasmacytoid differentiation, a t(9;14)(p13;q32) translocation resulting in the deregulation of PAX5 gene expression has been detected.

CHROMOSOMAL LOCATION

Genetic locus: PAX5 (human) mapping to 9p13.2; Pax5 (mouse) mapping to 4 B1.

SOURCE

Pax-5 (E-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 362-390 at the C-terminus of Pax-5 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-55515 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Pax-5 (E-9) is recommended for detection of Pax-5 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)] and 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). Pax-5 (E-9) is also recommended for detection of Pax-5 in additional species, including equine and porcine.

Suitable for use as control antibody for Pax-5 siRNA (h): sc-36193, Pax-5 siRNA (m): sc-36194, Pax-5 shRNA Plasmid (h): sc-36193-SH, Pax-5 shRNA Plasmid (m): sc-36194-SH, Pax-5 shRNA (h) Lentiviral Particles: sc-36193-V and Pax-5 shRNA (m) Lentiviral Particles: sc-36194-V.

Molecular Weight of Pax-5: 46 kDa.

Positive Controls: NAMALWA cell lysate: sc-2234, BJAB nuclear extract: sc-2145 or Raji whole cell lysate: sc-364236.

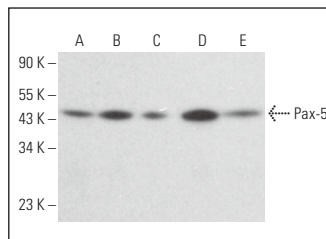
STORAGE

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



Pax-5 (E-9): sc-55515. Western blot analysis of Pax-5 expression in BJAB nuclear extract (A) and NAMALWA (B), Raji (C), Daudi (D) and GA-10 (E) whole cell lysates.

SELECT PRODUCT CITATIONS

- Hauser, J., et al. 2008. B-cell receptor activation inhibits AID expression through calmodulin inhibition of E-proteins. *Proc. Natl. Acad. Sci. USA* 105: 1267-1272.
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- Zhang, H., et al. 2012. The Blk pathway functions as a tumor suppressor in chronic myeloid leukemia stem cells. *Nat. Genet.* 44: 861-871.
- Nicholson, L., et al. 2015. Quantitative proteomic analysis reveals maturation as a mechanism underlying glucocorticoid resistance in B lineage ALL and re-sensitization by JNK inhibition. *Br. J. Haematol.* 171: 595-605.
- Kumar, A., et al. 2018. Regulation of the DNA repair complex during somatic hypermutation and class-switch recombination. *J. Immunol.* 200: 4146-4156.
- Gao, Y., et al. 2019. IRF4 promotes Epstein-Barr virus activation in Burkitt's lymphoma cells. *J. Gen. Virol.* 100: 851-862.
- Palma-Lara, I., et al. 2020. Variable expression of Notch1 and Pax5 in classical hodgkin lymphoma and infection with Epstein-Barr in pediatric patients. *Microorganisms* 8: 958.
- Javadekar, S.M., et al. 2020. Characterization of G-quadruplex antibody reveals differential specificity for G4 DNA forms. *DNA Res.* 27: dsaa024.

PROTOCOLS

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



See **Pax-5 (A-11): sc-13146** for Pax-5 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.