SANTA CRUZ BIOTECHNOLOGY, INC.

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

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

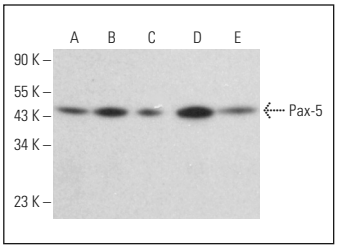
STORAGE

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

1. 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.
2. Hauser, J., et al. 2009. Initiation of antigen receptor-dependent differentiation into plasma cells by calmodulin inhibition of E2A. J. Immunol. 183: 1179-1187.
3. Zhang, H., et al. 2012. The Blk pathway functions as a tumor suppressor in chronic myeloid leukemia stem cells. Nat. Genet. 44: 861-871.
4. 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.
5. Kumar, A., et al. 2018. Regulation of the DNA repair complex during somatic hypermutation and class-switch recombination. J. Immunol. 200: 4146-4156.
6. Gao, Y., et al. 2019. IRF4 promotes Epstein-Barr virus activation in Burkitt's lymphoma cells. J. Gen. Virol. 100: 851-862.
7. 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.
8. Javadekar, S.M., et al. 2020. Characterization of G-quadruplex antibody reveals differential specificity for G4 DNA forms. DNA Res. E-published.

PROTOCOLS

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

CONJUGATES

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.