

Pax-5 (1H9): sc-130922

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.

REFERENCES

1. Adams, B., et al. 1992. Pax-5 encodes the transcription factor BSAP and is expressed in B lymphocytes, the developing CNS and adult testis. *Genes Dev.* 6: 1589-1607.
2. Stapleton, P., et al. 1993. Chromosomal localization of seven Pax genes and cloning of a novel family member, Pax-9. *Nat. Genet.* 3: 292-298.
3. Busslinger, M., et al. 1995. The role of BSAP (Pax-5) in B cell development. *Curr. Opin. Gen. Dev.* 5: 595-601.
4. Busslinger, M., et al. 1996. Deregulation of Pax-5 by translocation of the Emu enhancer of the IgH locus adjacent to two alternative Pax-5 promoters in a diffuse large-cell lymphoma. *Proc. Natl. Acad. Sci. USA* 93: 6129-6134.
5. Dorfler, P., et al. 1996. C-terminal activating and inhibitory domains determine the transactivation potential of BSAP (Pax-5), Pax-2 and Pax-8. *EMBO J.* 15: 1971-1982.
6. Mahmoud, M.S., et al. 1996. Altered expression of Pax-5 gene in human myeloma cells. *Blood* 87: 4311-4315.

CHROMOSOMAL LOCATION

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

SOURCE

Pax-5 (1H9) is a rat monoclonal antibody raised against a recombinant protein corresponding to amino acids 154-284 of Pax-5 of mouse origin.

PRODUCT

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

Pax-5 (1H9) is available conjugated to either phycoerythrin (sc-130922 PE) or fluorescein (sc-130922 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

STORAGE

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

APPLICATIONS

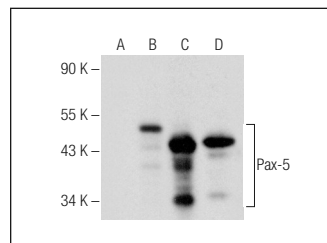
Pax-5 (1H9) is recommended for detection of Pax-5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

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.

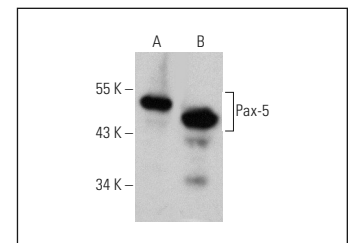
Molecular Weight of Pax-5: 46 kDa.

Positive Controls: Pax-5 (h): 293 Lysate: sc-176172, NAMALWA cell lysate: sc-2234 or BJAB nuclear extract: sc-2145.

DATA



Pax-5 (1H9): sc-130922. Western blot analysis of Pax-5 expression in non-transfected 293: sc-110760 (A), human Pax-5 transfected 293: sc-176172 (B) and NAMALWA (C) whole cell lysates and BJAB nuclear extract (D).



Pax-5 (1H9): sc-130922. Western blot analysis of Pax-5 expression in Ramos (A) and IB4 (B) whole cell lysates.

RESEARCH USE

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

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, Alexa Fluor[®] 488 and Alexa Fluor[®] 647.