

PROX1 (FM-79): sc-81983

BACKGROUND

Homeodomain proteins are key regulators in the growth and development of tissues undergoing morphogenesis. PROX1 (homeobox prospero-like protein) is a 737 amino acid transcription factor necessary for progenitor-cell proliferation and cell-fate determination in embryonic tissue. PROX1 is actively expressed in the developing lens and can be detected in embryonic brain, kidney, liver and lung. During maturation, predominant expression is found in heart and liver rather than brain and kidney. The expression pattern of the PROX1 suggests that PROX1 has a role in determining cell fate in a variety of embryonic tissues. PROX1 contains a prospero-type homeobox DNA-binding domain, which conveys PROX1 function as a transcription factor. Decreased PROX1 expression due to hypermethylation suggests that PROX1 may also act as a tumor suppressor.

REFERENCES

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- Dyer, M.A., et al. 2003. PROX1 function controls progenitor cell proliferation and horizontal cell genesis in the mammalian retina. *Nat. Genet.* 34: 53-58.
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- Birmingham-McDonogh, O., et al. 2006. Expression of PROX1 during mouse cochlear development. *J. Comp. Neurol.* 496: 172-186.
- Shin, J.W., et al. 2006. PROX1 promotes lineage-specific expression of fibroblast growth factor (FGF) receptor-3 in lymphatic endothelium: a role for FGF signaling in lymphangiogenesis. *Mol. Biol. Cell* 17: 576-584.

CHROMOSOMAL LOCATION

Genetic locus: PROX1 (human) mapping to 1q32.3; Prox1 (mouse) mapping to 1 H6.

SOURCE

PROX1 (FM-79) is a mouse monoclonal antibody raised against recombinant PROX1 of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

PROX1 (FM-79) is recommended for detection of PROX1 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PROX1 siRNA (h): sc-106451, PROX1 siRNA (m): sc-152489, PROX1 shRNA Plasmid (h): sc-106451-SH, PROX1 shRNA Plasmid (m): sc-152489-SH, PROX1 shRNA (h) Lentiviral Particles: sc-106451-V and PROX1 shRNA (m) Lentiviral Particles: sc-152489-V.

Molecular Weight of PROX1: 83 kDa.

Positive Controls: human skeletal muscle extract: sc-363776.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

SELECT PRODUCT CITATIONS

- Kontarakis, Z., et al. 2018. Mir-126 is a conserved modulator of lymphatic development. *Dev. Biol.* 437: 120-130.
- Yao, W., et al. 2023. Exosomal circ_0026611 contributes to lymphangiogenesis by reducing PROX1 acetylation and ubiquitination in human lymphatic endothelial cells (HLECs). *Cell. Mol. Biol. Lett.* 28: 13.

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.

PROTOCOLS

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