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Polyclonal Antibody to PROX-1 (C-term) - Purified

Alternate names: Homeobox prospero-like protein PROX1, PROX1, Prospero homeobox protein 1

Catalog No.: AP11900PU-N

Quantity: 0.4 ml

Concentration: lot specific

Background: The expression pattern of the Prox1 homeo box gene suggests that it has a role in a variety of embryonic tissues, including lens. Analysis of mRNA reveals that Prox mRNA is present in many different human tissues and that lens demonstrated the highest level. Homozygous Prox1-null mice die at midgestation from multiple developmental defects, and a targeted effect on lens development has been reported. Prox1 inactivation caused abnormal cellular proliferation, downregulated expression of the cell cycle inhibitors Cdkn1b and Cdkn1c, misexpression of E-cadherin, and excessive apoptosis. Consequently, mutant lens cells failed to polarize and elongate properly, resulting in a hollow lens. The Prox1 gene is expressed in a subpopulation of endothelial cells that by budding and sprouting give rise to the lymphatic system. Prox1 appears to be a specific and required regulator of the development of the lymphatic system. Prox1 also has been document to be required for hepatocyte migration in the mouse. Loss of Prox1 results in a smaller liver with a reduced population of clustered hepatocytes. The homeodomain protein Prox1 regulates the egress of progenitor cells from the cell cycle in the embryonic mouse retina. Cells lacking Prox1 are less likely to stop dividing, and ectopic expression of Prox1 forces progenitor cells to exit the cell cycle. Prox1 acts as a key participant in progenitor-cell proliferation and cell-fate determination in the vertebrate retina.

Uniprot ID: Q92786

NCBI: 9606

GeneID: 5629

Host / Isotype: Rabbit / Ig

Immunogen: This antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide selected from the C-terminal region of human PROX1.
Remarks: The sequence of the immunogen is 100 % homologous to mouse.

Format: **State:** Liquid Ig fraction
Purification: Protein G column, eluted with high and low pH buffers and neutralized immediately, followed by dialysis against P
Buffer System: PBS with 0.09% (W/V) sodium azide

Applications: ELISA 1:1,000.
Western blot 1:50 - 1:100.
Immunohistochemistry 1:50 - 1:100.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity: This antibody detects PROX1 at C-term.
Species: Human, Mouse.
Other species not tested.

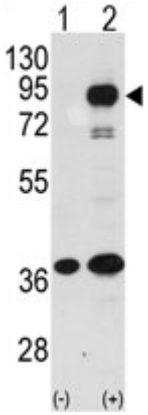
Add. Information: Molecular weight: 83162 Da

Storage: Store the antibody at 2 - 8 °C up to one month or (in aliquots) at -20 °C for longer. Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

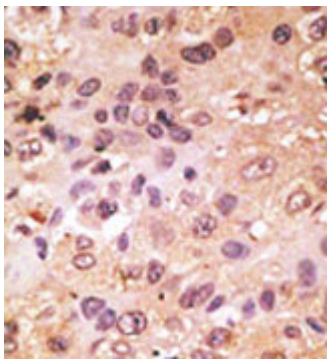
General Readings:
1. Nagai, H., et al., Genes Chromosomes Cancer 38(1):13-21 (2003).
2. Dyer, M.A., et al., Nat. Genet. 34(1):53-58 (2003).
3. Hong, Y.K., et al., Dev. Dyn. 225(3):351-357 (2002).
4. Petrova, T.V., et al., EMBO J. 21(17):4593-4599 (2002).
5. Mouta Carreira, C., et al., Cancer Res. 61(22):8079-8084 (2001).
6. Shaham O, Smith AN, Robinson ML, Taketo MM, Lang RA, Ashery-Padan R. Pax6 is essential for lens fiber cell differentiation. Development. 2009 Aug;136(15):2567-78. doi: 10.1242/dev.032888. Epub 2009 Jul 1. PubMed PMID: 19570848.

Pictures:

Western blot analysis of PROX1 (arrow) using rabbit polyclonal PROX1 Antibody (AP11900PU-N). 293 cell lysates (2 µg/lane) either nontransfected (Lane 1) or transiently transfected with the PROX1 gene (Lane 2) (Origene Technologies).



Formalin-fixed and paraffin-embedded human hepatocarcinoma reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Recommended Control Peptides: AP11900CP-N