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PROX1 Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP2035a

Specification

PROX1 Antibody (N-term) Blocking Peptide - Product Information

Primary Accession	Q92786
Other Accession	NP_002754

PROX1 Antibody (N-term) Blocking Peptide - Additional Information

Gene ID 5629

Other Names
Prospero homeobox protein 1, Homeobox prospero-like protein PROX1, PROX-1, PROX1

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP2035a was selected from the N-term region of human PROX1 . A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

PROX1 Antibody (N-term) Blocking Peptide - Protein Information

Name PROX1

Function
Transcription factor involved in developmental processes such as cell fate determination, gene transcriptional regulation and progenitor cell regulation in a number of organs. Plays a critical role in embryonic development and functions as a key regulatory protein in neurogenesis and the development of the heart, eye lens, liver, pancreas and the lymphatic system. Involved in the regulation of the circadian rhythm. Represses: transcription of the retinoid-related orphan receptor RORG, transcriptional activator activity of RORA and RORG and the expression of RORA/G-target genes including core clock components: BMAL1, NPAS2 and CRY1 and metabolic genes: AVPR1A and ELOVL3.

Cellular Location
Nucleus {ECO:0000250|UniProtKB:P48437}. Note=RORG promotes its nuclear localization.

{ECO:0000250|UniProtKB:P48437}

Tissue Location
Most actively expressed in the developing lens. Detected also in embryonic brain, lung, liver and kidney. In adult, it is more abundant in heart and liver than in brain, skeletal muscle, kidney and pancreas.

PROX1 Antibody (N-term) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

PROX1 Antibody (N-term) Blocking Peptide - Images

PROX1 Antibody (N-term) Blocking Peptide - 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.

PROX1 Antibody (N-term) Blocking Peptide - References

Nagai, H., et al., Genes Chromosomes Cancer 38(1):13-21 (2003).Dyer, M.A., et al., Nat. Genet. 34(1):53-58 (2003).Hong, Y.K., et al., Dev. Dyn. 225(3):351-357 (2002).Petrova, T.V., et al., EMBO J. 21(17):4593-4599 (2002).Mouta Carreira, C., et al., Cancer Res. 61(22):8079-8084 (2001).