

PROX1 (D2J6J) Rabbit mAb

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Applications: W, IHC-P, IF-IC	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 85	Source/Isotype: Rabbit IgG	UniProt ID: #Q92786	Entrez-Gene Id: 5629
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Product Usage Information**Application**

Western Blotting
Immunohistochemistry (Paraffin)
Immunofluorescence (Immunocytochemistry)

Dilution

1:1000
1:1000
1:3200 - 1:12800

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

For a carrier free (BSA and azide free) version of this product see product #45546.

Specificity/Sensitivity

PROX1 (D2J6J) Rabbit mAb recognizes endogenous levels of total PROX1 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Glu567 of human PROX1 protein.

Background

Prospero homeobox protein 1 (PROX1) is a transcription factor known for its roles in organ development and lymphangiogenesis. It plays a critical role in the development of the CNS, lens, retina, liver, pancreas, and heart, and is considered to be the master regulator of the lymphatic system (1,2). PROX1 initiates the differentiation of lymphatic vasculature from the cardinal vein, where it is regulated by Sox18 (3,4). The PROX1 suppressor COUP-TFII represses the Notch pathway in venous endothelium, which prevents arterIALIZATION (4). HIF-1α and HIF-1β mediated hypoxia induces PROX1, which suggests a means of promoting lymphangiogenesis. Since the tumor microenvironment is typically hypoxic, regulation of PROX1 by hypoxia may also explain the up-regulation of this transcription factor in some cancers (2). PROX1 promotes colon cancer progression by down-regulating E-cadherin via miR-9, which promotes epithelial-mesenchymal transition (EMT) and metastasis (5). The PROX1 protein can act as a tumor suppressor in cases of hepatocellular carcinoma. PROX1 represses transcription of TWIST1, a transcription factor that promotes metastasis by binding the E-cadherin promoter. The function of PROX1 in other cancers is an area of active research (6).

Background References

1. Shan, S.F. et al. (2008) *FEBS Lett* 582, 3723-8.
2. Zhou, B. et al. (2013) *FEBS Lett* 587, 724-31.
3. Aranguren, X.L. et al. (2013) *J Cell Sci* 126, 1164-75.
4. Kim, H. et al. (2013) *PLoS One* 8, e52197.
5. Lu, M.H. et al. (2012) *Clin Cancer Res* 18, 6416-25.
6. Chang, T.M. and Hung, W.C. (2012) *FEBS Lett* 586, 3746-52.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IHC-P:** Immunohistochemistry (Paraffin) **IF-IC:** Immunofluorescence (Immunocytochemistry)

Cross-Reactivity Key

H: Human

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