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HOPX Antibody

Catalog # ASC11910

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q9BPY8
Other Accession	NP_001138932, 224451025
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	8260
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	HOPX antibody can be used for detection of HOPX by Western blot at 1 - 2 g/mL. Antibody can also be used for immunohistochemistry starting at 5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	84525
Other Names	Homeodomain-only protein, Lung cancer-associated Y protein, Not expressed in choriocarcinoma protein 1, Odd homeobox protein 1, HOPX, HOD, HOP, LAGY, NECC1, OB1
Target/Specificity	HOPX; HOPX antibody is human specific. At least three isoforms of HOPX are known to exist; this antibody will detect all three isoforms.
Reconstitution & Storage	HOPX antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	HOPX Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	HOPX
Synonyms	HOD, HOP, LAGY, NECC1, OB1
Function	Atypical homeodomain protein which does not bind DNA and is required to modulate cardiac growth and development. Acts via its interaction with SRF, thereby modulating the expression of SRF- dependent cardiac-specific genes and cardiac development. Prevents SRF- dependent transcription either by inhibiting SRF binding to DNA or by recruiting histone deacetylase (HDAC) proteins that prevent transcription by SRF. Overexpression causes cardiac hypertrophy (By similarity). May act as a tumor suppressor. Acts as a

	co-chaperone for HSPA1A and HSPA1B chaperone proteins and assists in chaperone-mediated protein refolding (PubMed:27708256).
Cellular Location	Nucleus {ECO:0000250|UniProtKB:Q8R1H0}. Cytoplasm {ECO:0000250|UniProtKB:Q8R1H0}
Tissue Location	Widely expressed. Expressed in the heart, brain, placenta, lung, skeletal and smooth muscles, uterus, urinary bladder, kidney and spleen. Down-regulated in some types of cancer such as lung cancer, choriocarcinoma, head and neck squamous cell carcinoma and oral squamous cell carcinoma.

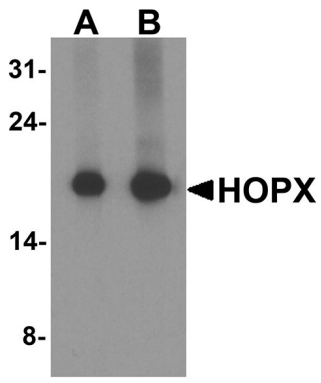
Background

HOPX is a small homeodomain protein that lacks normally conserved residues required for DNA binding (1). It is thought to act downstream of NKX2-5 and modulates serum response factor (SRF)-dependent cardiac-specific gene expression and cardiac development (1). HOPX also acts a tumor suppressor gene in multiple tumors and cancer cell lines (2,3). HOPX has been reported to regulate the proliferation/differentiation homeostasis in different cell types, including keratinocytes (4).

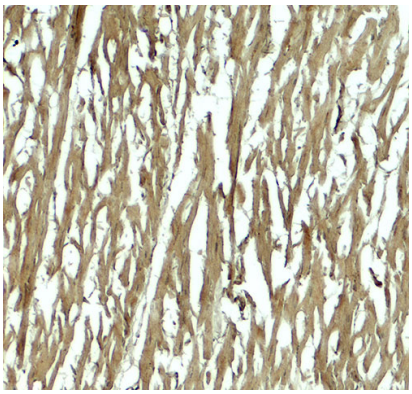
References

Chen F, Kook H, Milewski R, et al. Hop is an unusual homeobox gene that modulates cardiac development. Cell 2002; 110:713-23.
Asanoma K, Matsuda T, Kondo H, et al. NECC1, a candidate choriocarcinoma suppressor gene that encodes a homeodomain consensus motif. Genomics 2003; 81:15-25.
Katoh H, Yamashita K, Waraya M, et al. Epigenetic silencing of HOPX promotes cancer progression in colorectal cancer. Neoplasia 2012; 14:559-71.
Obarzanek-Fojt M, Favre B, Kypriotou M, et al. Homeodomain-only protein HOP is a novel modulator of late differentiation in keratinocytes. Eur. J. Cell Biol. 2011; 90:279-90.

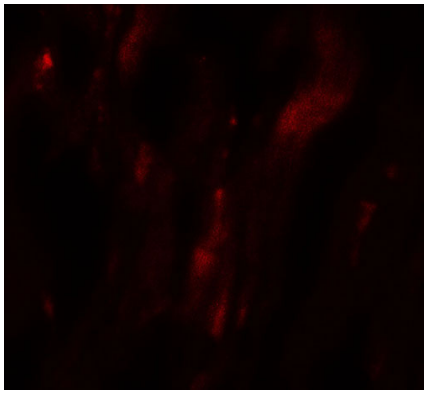
Images



Western blot analysis of HOPX in human brain tissue lysate with HOPX antibody at (A) 1 and (B) 2 µg/ml.



Immunohistochemistry of HOPX in human heart tissue with HOPX antibody at 5 µg/mL.



Immunofluorescence of HOPX in human heart tissue with HOPX antibody at 20 µg/mL.