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PHOX2A Antibody

Catalog # ASC11479

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	O14813
Other Accession	NP_005160, 46249382
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	29653
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	PHOX2A antibody can be used for detection of PHOX2A by Western blot at 1 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL. For immunofluorescence start at 2.5 g/mL.

Additional Information

Gene ID	401
Other Names	Paired mesoderm homeobox protein 2A, ARIX1 homeodomain protein, Aristaless homeobox protein homolog, Paired-like homeobox 2A, PHOX2A, ARIX, PMX2A
Target/Specificity	PHOX2A; PHOX2A antibody is predicted to not cross-react with other paired homeobox family members.
Reconstitution & Storage	PHOX2A antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	PHOX2A Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PHOX2A
Synonyms	ARIX, PMX2A
Function	May be involved in regulating the specificity of expression of the catecholamine biosynthetic genes. Involved in the development of several major noradrenergic neuron populations, including the locus coeruleus. Acts as a transcription activator/factor. Could maintain the noradrenergic phenotype (By similarity).

Cellular Location Nucleus {ECO:0000255|PROSITE-ProRule:PRU00108}.

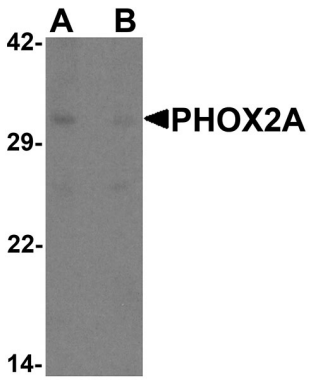
Background

PHOX2A Antibody: PHOX2A and PHOX2B (Paired mesoderm homeobox protein) are closely related, paired-homeodomain transcription factors that function as determinants of the noradrenergic phenotype during embryogenesis. PHOX2 proteins are crucial for the regulation of endogenous hydroxylases in neural crest cells and promote sympathetic neuron generation. Human PHOX2B contains one DNA binding homeobox domain and is required for the differentiation of all central and nonperipheral noradrenergic centers in the brain. In contrast, PHOX2A controls only the differentiation of the main noradrenergic center of the brain. Regulation of PHOX2 may have therapeutic utility in aging or disorders involving degeneration of noradrenergic neurons.

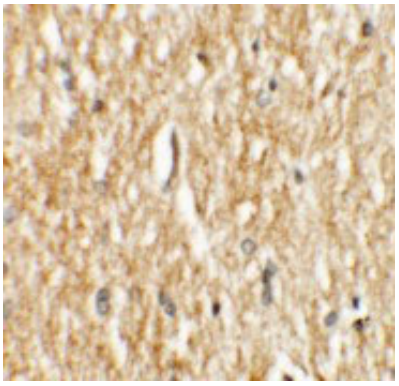
References

Stanke M, Junghans D, Geissen M, et al. The Phox2 homeodomain proteins are sufficient to promote the development of sympathetic neurons. Development 1999; 126:4087-94.
Young HM, Ciampoli D, Hsuan J, et al. Expression of Ret-, p75(NTR)-, Phox2a-, Phox2b-, and tyrosine hydroxalase-immunoreactivity by undifferentiated neural crest-derived cells and different classes of enteric neurons in the embryonic mouse gut. Dev. Dyn. 1999; 216:137-52.
Pattyn A, Morin X, Cremer H, et al. The homeobox gene Phox2b is essential for the development of autonomic neural crest derivatives. Nature 1999; 399:366-70.
Coppola E, d'Autréaux F, Rijli FM, et al. Ongoing roles of Phox2 homeodomain transcription factors during neuronal differentiation. Development 2010; 137:4211-20.

Images

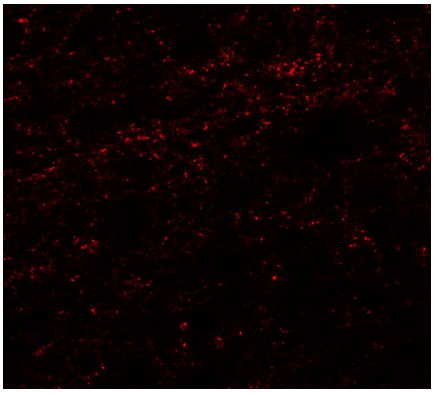


Western blot analysis of PHOX2A in rat brain tissue lysate with PHOX2A antibody at 1 µg/ml in (A) the absence and (B) the presence of blocking peptide.



Immunohistochemistry of PHOX2A in human brain tissue with PHOX2A antibody at 2.5 µg/mL.

Immunofluorescence of PHOX2A in human brain tissue with PHOX2A antibody at 20 µg/mL.



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.