

**PHOX2B Antibody**  
Catalog # ASC11501**Specification**

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**PHOX2B Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">Q99453</a>
Other Accession	<a href="#">NP_003915</a> , <a href="#">12707580</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Application Notes	PHOX2B antibody can be used for detection of PHOX2B by Western blot at 1 - 2 µg/mL.

**PHOX2B Antibody - Additional Information**

Gene ID 8929

**Target/Specificity**

PHOX2B; PHOX2B antibody is predicted to not cross-react with other paired homeobox family members.

**Reconstitution & Storage**

PHOX2B antibody can be stored at 4°C for three months and -20°C, 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**

PHOX2B Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**PHOX2B Antibody - Protein Information**

Name PHOX2B

Synonyms PMX2B

**Function**

Involved in the development of several major noradrenergic neuron populations, including the locus coeruleus. Transcription factor which could determine a neurotransmitter phenotype in vertebrates. Enhances second-messenger-mediated activation of the dopamine beta- hydrolase and c-fos promoters, and of several enhancers including cAMP- response element and serum-response element.

**Cellular Location**

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

**Tissue Location**

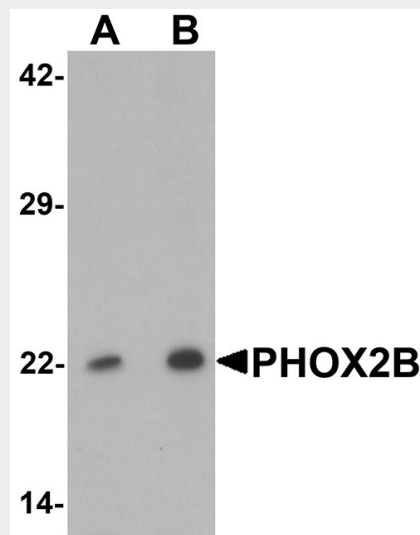
Expressed in neuroblastoma, brain and adrenal gland

### PHOX2B Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### PHOX2B Antibody - Images



Western blot analysis of PHOX2B in 293 cell lysate with PHOX2B antibody at (A) 1 and (B) 2  $\mu\text{g/mL}$ .

### PHOX2B Antibody - Background

PHOX2B 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.

### PHOX2B Antibody - 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