

# PRX2 (NQ-A42): sc-134426

## BACKGROUND

The paired-class homeobox genes PRX1 and PRX2 are necessary for craniofacial and limb development and are expressed in similar patterns in the cranial mesenchyme, limb buds, axial mesoderm and branchial arches. These proteins exhibit different patterns of expression, however, in heart and brain tissue. Specifically, PRX1 is expressed in the endocardial cushions, semilunar and atrioventricular valves, whereas PRX2 is initially expressed in a diffuse myocardial pattern and is later expressed in the ventricular septum. Furthermore, PRX2 is never expressed in the brain, whereas PRX1 is expressed in the ventral hypothalamus and in the telencephalon. Murine mutants lacking PRX1 function demonstrate skeletal defects in the skull, limbs and vertebral column. Mice lacking functional PRX2 alone do not demonstrate skeletal abnormalities, however, PRX1/PRX2 double mutants demonstrate novel abnormalities that are not visualized with the PRX1-deficient mice. Transcripts of neither PRX1 nor PRX2 are detected in normal adult rat pulmonary arteries, however vascular disease induces PRX gene expression wherein they co-localize to sites of Tenascin-C expression. The human PRX1 gene maps to chromosome 1q24.2 and the human PRX2 gene maps to chromosome 9q34.11.

## REFERENCES

1. Leussink, B., et al. 1995. Expression patterns of the paired-related homeobox genes MHox/PRX1 and S8/PRX2 suggest roles in development of the heart and the forebrain. *Mech. Dev.* 52: 51-64.
2. Ten Berge, D., et al. 1998. PRX1 and PRX2 in skeletogenesis: roles in the craniofacial region, inner ear and limbs. *Development* 125: 3831-3842.
3. Bergwerff, M., et al. 2000. Loss of function of the PRX1 and PRX2 homeobox genes alters architecture of the great elastic arteries and ductus arteriosus. *Virchows Arch.* 436: 12-19.
4. Norris, R.A., et al. 2000. Human PRRX1 and PRRX2 genes: cloning, expression, genomic localization, and exclusion as disease genes for Nager syndrome. *Mamm. Genome* 11: 1000-1005.
5. Jones, F.S., et al. 2001. PRX1 controls vascular smooth muscle cell proliferation and Tenascin-C expression and is upregulated with PRX2 in pulmonary vascular disease. *Circ. Res.* 89: 131-138.
6. Ten Berge, D., et al. 2001. PRX1 and PRX2 are upstream regulators of sonic hedgehog and control cell proliferation during mandibular arch morphogenesis. *Development* 128: 2929-2938.

## CHROMOSOMAL LOCATION

Genetic locus: PRRX2 (human) mapping to 9q34.11.

## SOURCE

PRX2 (NQ-A42) is a mouse monoclonal antibody raised against recombinant PRX2 protein of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

PRX2 (NQ-A42) is recommended for detection of PRX2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PRX2 siRNA (h): sc-106456, PRX2 shRNA Plasmid (h): sc-106456-SH and PRX2 shRNA (h) Lentiviral Particles: sc-106456-V.

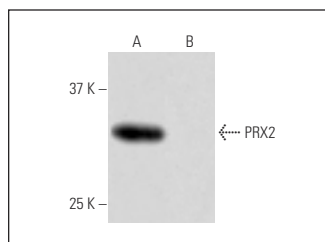
Molecular Weight of PRX2: 50 kDa.

Positive Controls: human PRX2 transfected 293T whole cell lysate.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



PRX2 (NQ-A42): sc-134426. Western blot analysis of PRX2 expression in human PRX2 transfected (A) and non-transfected (B) 293T whole cell lysates.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.