SANTA CRUZ BIOTECHNOLOGY, INC.

PRX2 (S-15): sc-21953

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The Power to Question

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 cusions, 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 vasular disease induces PRX gene expression wherein they co-localize to sites of Tenascin-C expression. The human PRX1 gene maps to chromosome 1q23 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., 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; Prrx2 (mouse) mapping to 2 B.

SOURCE

PRX2 (S-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PRX2 of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-21953 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PRX2 (S-15) is recommended for detection of PRX2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PRX2 (S-15) is also recommended for detection of PRX2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PRX2 siRNA (h): sc-106456, PRX2 siRNA (m): sc-152532, PRX2 shRNA Plasmid (h): sc-106456-SH, PRX2 shRNA Plasmid (m): sc-152532-SH, PRX2 shRNA (h) Lentiviral Particles: sc-106456-V and PRX2 shRNA (m) Lentiviral Particles: sc-152532-V.

Molecular Weight of PRX2: 50 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.