Pax-1 (P-17): sc-85809

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BIOTECHNOLOGY

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BACKGROUND

Pax genes contain paired domains with strong homology to genes in *Drosophila* that are involved in programming early development. Pax-1 is a sequence-specific DNA binding-protein with transcriptional activating properties. The expression pattern of Pax-1 during mouse embryogenesis indicates that it may play an important role in the development of the vertebral column. The autosomal recessive mutation "undulated" (un) in the mouse exhibits vertebral anomalies along the entire rostrocaudal axis and is associated with a point mutation (G-to-A transition) at position 15 leading to a gly-to-ser replacement in a highly conserved region of the paired box of Pax-1. Pax-1 is required for the normal development of these three skeletal elements: the vertebral column, sternum, and scapula. Mice who are doubly heterozygous for the mutants "undulated" and "Patch" have a phenotype reminiscent of an extreme form of spina bifida occulta in humans. The gene which encodes Pax-1 maps to human chromosome 20p11.22.

REFERENCES

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4. Helwig, U., et al. 1995. Interaction between undulated and Patch leads to an extreme form of spina bifida in double-mutant mice. Nat. Genet. 11: 60-63.

5. David, K.M., et al. 1999. The dysmorphic cervical spine in Klippel-Feil syndrome: interpretations from developmental biology. Neurosurg. Focus 6: E1.

6. Tang, L.S., et al. 2003. Neural and orofacial defects in Folp1 knockout mice [corrected. Birth Defects Res. Part A Clin. Mol. Teratol. 67: 209-218.

7. Wilson-Rawls, J., et al. 2004. Paraxis is a basic helix-loop-helix protein that positively regulates transcription through binding to specific E-box elements. J. Biol. Chem. 279: 37685-37692.

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CHROMOSOMAL LOCATION

Genetic locus: PAX1 (human) mapping to 20p11.22; Pax1 (mouse) mapping to 2 G2.

SOURCE

Pax-1 (P-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Pax-1 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-85809 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Pax-1 (P-17) is recommended for detection of Pax-1 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); non cross-reactive with other Pax family members.

Pax-1 (P-17) is also recommended for detection of Pax-1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Pax-1 siRNA (h): sc-38743, Pax-1 siRNA (m): sc-38744, Pax-1 shRNA Plasmid (h): sc-38743-SH, Pax-1 shRNA Plasmid (m): sc-38744-SH, Pax-1 shRNA (h) Lentiviral Particles: sc-38743-V and Pax-1 shRNA (m) Lentiviral Particles: sc-38744-V.

Molecular Weight of Pax-1: 46 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.