

Pax-1 (M-19): sc-7744

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.

REFERENCES

- Lichter, P., et al. 1990. High-resolution mapping of human chromosome 11 by *in situ* hybridization with cosmid clones. *Science* 247: 64-69.
- Chalepakis, G., et al. 1991. The molecular basis of the undulated/Pax-1 mutation. *Cell* 66: 873-884.
- 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.
- Deutsch, U., et al. 1988. Pax 1, a member of a paired box homologous murine gene family, is expressed in segmented structures during development. *Cell* 53: 617-625.
- LocusLink Report (LocusID: 167411).
<http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: Pax1 (mouse) mapping to 2 G2.

SOURCE

Pax-1 (M-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Pax-1 of mouse origin.

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-7744 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-7744 X, 200 µg/0.1 ml.

STORAGE

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

APPLICATIONS

Pax-1 (M-19) is recommended for detection of Pax-1 of mouse and rat 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).

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

Pax-1 (M-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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.

SELECT PRODUCT CITATIONS

- Rodrigo, I., et al. 2003. Pax-1 and Pax-9 activate Bapx1 to induce chondrogenic differentiation in the sclerotome. *Development* 130: 473-482.
- Rodrigo, I., et al. 2004. Meox homeodomain proteins are required for Bapx1 expression in the sclerotome and activate its transcription by direct binding to its promoter. *Mol. Cell. Biol.* 24: 2757-2766.

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.



Try **Pax (D-7): sc-514352**, our highly recommended monoclonal alternative to Pax-1 (M-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Pax (D-7): sc-514352**.