

Pax-2/5/8 (N-19): sc-7747

BACKGROUND

Pax genes contain paired domains with strong homology to genes in *Drosophila* which are involved in programming early development. The PAX2 gene is expressed in primitive cells of the kidney, ureter, eye, ear, and central nervous system. More specifically, in human embryo sections, PAX2 is expressed in the optic vesicle and later in the retina, in the otic vesicle and later in the semicircular canals of the inner ear, and in mesonephros, metanephros, adrenals, spinal cord, and hindbrain. PAX2 mutations can be responsible for renal hypoplasia, either isolated or associated with various ophthalmologic manifestations ranging from retinal coloboma to microphthalmia. The gene which encodes Pax-2 maps to human chromosome 10q24.31. Lesions in the PAX6 gene accounts for most cases of aniridia, a congenital malformation of the eye, chiefly characterized by iris hypoplasia, which can cause blindness. PAX6 is involved in other anterior segment malformations besides aniridia, such as Peters anomaly, a major error in the embryonic development of the eye with corneal clouding with variable iridolenticulocorneal adhesions. The gene which encodes Pax-6 maps to human chromosome 11p13.

REFERENCES

1. Stapleton, P., et al. 1993. Chromosomal localization of seven PAX genes and cloning of a novel family member, PAX-9. *Nat. Genet.* 3: 292-298.
2. Igarashi, P. 1994. Transcription factors and apoptosis in kidney development. *Curr. Opin. Nephrol. Hypertens.* 3: 308-317.
3. Poleev, A., et al. 1995. Distinct functional properties of three human paired-box-protein, PAX8, isoforms generated by alternative splicing in thyroid, kidney and Wilms' tumors. *Eur. J. Biochem.* 228: 899-911.
4. Dorfler, P. et al. 1996. C-terminal activating and inhibitory domains determine the transactivation potential of BSAP (Pax-5), Pax-2 and Pax-8. *EMBO J.* 15: 1971-1982.

SOURCE

Pax-2/5/8 (N-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Pax-2 of human 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-7747 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-7747 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.

RESEARCH USE

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

APPLICATIONS

Pax-2/5/8 (N-19) is recommended for detection of Pax-2, Pax-5, and Pax-8 of mouse, rat and 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)], 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). Pax-2/5/8 (N-19) is also recommended for detection of Pax-2, Pax-5, and Pax-8 in additional species, including equine, canine, bovine, porcine and avian.

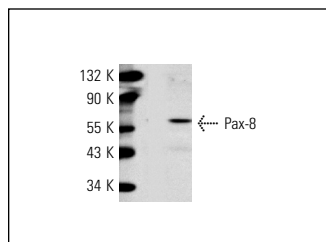
Suitable for use as control antibody for Pax-2/5/8 siRNA (h): sc-43996, Pax-2/5/8 shRNA Plasmid (h): sc-43996-SH and Pax-2/5/8 shRNA (h) Lentiviral Particles: sc-43996-V.

Pax-2/5/8 (N-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Pax-2/Pax-5/Pax-8: 42/46/62 kDa.

Positive Controls: 3T3-L1 cell lysate: sc-2243 or NAMALWA cell lysate: sc-2234.

DATA



Pax-2/5/8 (N-19): sc-7747. Western blot analysis of Pax-8 expression in NAMALWA whole cell lysate.

SELECT PRODUCT CITATIONS

1. Chauhan, B.K., et al. 2004. Functional interactions between alternatively spliced forms of Pax-6 in crystallin gene regulation and in haploinsufficiency. *Nucleic Acids Res.* 32: 1696-1709.
2. Torban, E., et al. 2006. Pax-2 activates Wnt-4 expression during mammalian kidney development. *J. Biol. Chem.* 281: 12705-12712.
3. Alcalay, N.I., et al. 2007. Ectopic expression of the homeobox gene Cux-1 rescues calcineurin inhibition in mouse embryonic kidney cultures. *Dev. Dyn.* 236: 184-191.
4. Kondo, S., et al. 2008. Rescue of renal hypoplasia and cystic dysplasia in Bcl-2^{-/-} mice expressing Bcl-2 in ureteric bud derived epithelia. *Dev. Dyn.* 237: 2450-2459.

MONOS
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Try **Pax-2/5/8 (G-3): sc-377181**, our highly recommended monoclonal alternative to Pax-2/5/8 (N-19).