

# Pax-2 (60-P): sc-130387

## BACKGROUND

Pax genes contain paired domains with strong homology to genes in *Drosophila* which are involved in programming early development. The Pax-2 gene is expressed in primitive cells of the kidney, ureter, eye, ear, and central nervous system. More specifically, in human embryo sections, Pax-2 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. Pax-2 mutations can be responsible for renal hypoplasia, either isolated or associated with various ophthalmologic manifestations ranging from retinal coloboma to microphthalmia. Lesions in the Pax-6 gene account for most cases of aniridia, a congenital malformation of the eye, chiefly characterized by iris hypoplasia, which can cause blindness. Pax-6 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.

## REFERENCES

1. Ferrell, R.E., et al. 1980. Autosomal dominant aniridia: probable linkage to acid phosphatase-1 locus on chromosome 2. *Proc. Natl. Acad. Sci. USA* 77: 1580-1582.
2. Hanson, I.M., et al. 1993. PAX6 mutations in aniridia. *Hum. Mol. Genet.* 2: 915-920.

## CHROMOSOMAL LOCATION

Genetic locus: PAX2 (human) mapping to 10q24.31; Pax2 (mouse) mapping to 19 C3.

## SOURCE

Pax-2 (60-P) is a mouse monoclonal antibody raised against recombinant Pax-2 of human origin.

## PRODUCT

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

## APPLICATIONS

Pax-2 (60-P) is recommended for detection of Pax-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for Pax-2 siRNA (h): sc-38745, Pax-2 siRNA (m): sc-38746, Pax-2 shRNA Plasmid (h): sc-38745-SH, Pax-2 shRNA Plasmid (m): sc-38746-SH, Pax-2 shRNA (h) Lentiviral Particles: sc-38745-V and Pax-2 shRNA (m) Lentiviral Particles: sc-38746-V.

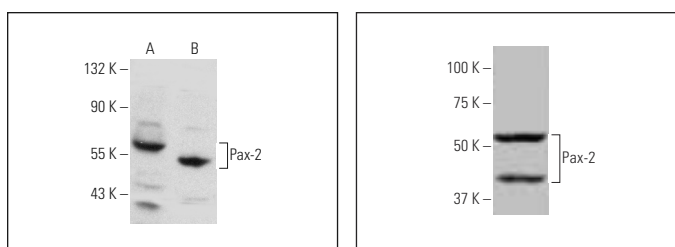
Molecular Weight of Pax-2: 42 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, K-562 whole cell lysate: sc-2203 or KNRK whole cell lysate: sc-2214.

## 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



Pax-2 (60-P): sc-130387. Western blot analysis of Pax-2 expression in K-562 (A) and KNRK (B) whole cell lysates. Pax-2 (60-P): sc-130387. Western blot analysis of Pax-2 expression in PC-12 whole cell lysate.

## SELECT PRODUCT CITATIONS


1. Beauchemin, D., et al. 2011. Pax-2 is activated by estradiol in breast cancer cells of the luminal subgroup selectively, to confer a low invasive phenotype. *Mol. Cancer* 10: 1-10.
2. Ndisang, J.F. and Tiwari, S. 2014. Mechanisms by which heme oxygenase rescue renal dysfunction in obesity. *Redox Biol.* 2: 1029-1037.
3. Sá, S.I., et al. 2018. Uterine histopathological changes induced by acute administration of tamoxifen and its modulation by sex steroid hormones. *Toxicol. Appl. Pharmacol.* 363: 88-97.
4. Singh, S., et al. 2020. Molecular characterization of Wdr13 knockout female mice uteri: a model for human endometrial hyperplasia. *Sci. Rep.* 10: 14621.
5. Alwosaibai, K., et al. 2022. PAX2 induces vascular-like structures in normal ovarian cells and ovarian cancer. *Exp. Ther. Med.* 23: 412.

## 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.



See **Pax (D-7): sc-514352** for Pax antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.