

# Pax-2/5/8 (G-3): sc-377181

## 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 iridolenticulo-corneal adhesions. The gene which encodes Pax-6 maps to human chromosome 11p13.

## REFERENCE

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.
3. Hanson, I.M., et al. 1994. Mutations at the PAX6 locus are found in heterogeneous anterior segment malformations including Peters' anomaly. Nat. Genet. 6: 168-173.

## SOURCE

Pax-2/5/8 (G-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 21-59 near the N-terminus of Pax-2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-377181 X, 200 µg/0.1 ml.

Pax-2/5/8 (G-3) is available conjugated to agarose (sc-377181 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377181 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377181 PE), fluorescein (sc-377181 FITC), Alexa Fluor® 488 (sc-377181 AF488), Alexa Fluor® 546 (sc-377181 AF546), Alexa Fluor® 594 (sc-377181 AF594) or Alexa Fluor® 647 (sc-377181 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377181 AF680) or Alexa Fluor® 790 (sc-377181 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377181 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## APPLICATIONS

Pax-2/5/8 (G-3) is recommended for detection of Pax-2, Pax-5 and Pax-8 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 (G-3) is also recommended for detection of Pax-2, Pax-5 and Pax-8 in additional species, including equine, canine, bovine, porcine and avian.

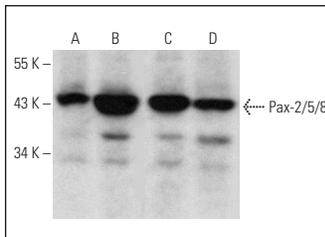
Suitable for use as control antibody for Pax-2/5/8 siRNA (h): sc-43996, Pax-2/5/8 shRNA Plasmid (h): sc-43996-SH and Pax-2/5/8 shRNA (h) Lentiviral Particles: sc-43996-V.

Pax-2/5/8 (G-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

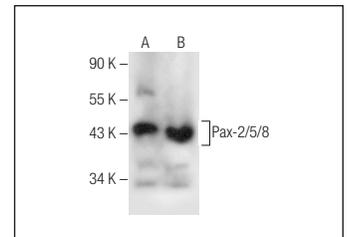
Molecular Weight of Pax-2/5/8: 42/46/62 kDa.

Positive Controls: WEHI-231 whole cell lysate: sc-2213, Ramos cell lysate: sc-2216 or NAMALWA cell lysate: sc-2234.

## DATA



Pax-2/5/8 (G-3): sc-377181. Western blot analysis of Pax-2/5/8 expression in Ramos (A), IB4 (B), RPE-J (C) and RBL-1 (D) whole cell lysates.



Pax-2/5/8 (G-3): sc-377181. Western blot analysis of Pax-2/5/8 expression in WEHI-231 (A) and NAMALWA (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Sharan, S., et al. 2014. Disruption of thyroid hormone functions by low dose exposure of tributyltin: an *in vitro* and *in vivo* approach. Gen. Comp. Endocrinol. 206: 155-165.
2. Rossich, L.E., et al. 2016. Effects of 2-iodohexadecanal in the physiology of thyroid cells. Mol. Cell. Endocrinol. 437: 292-301.

## 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.