SANTA CRUZ BIOTECHNOLOGY, INC.

Pax-6 (AD2.38): sc-32766

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Pax genes contain paired domains with strong homology to genes in *Drosophila* which are involved in programming early development. Lesions in the Pax-6 gene accounts 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. The Pax-6 gene encodes a transcriptional regulator that recognizes target genes through its paired-type DNA-binding domain. The paired domain is composed of two distinct DNA-binding subdomains, the amino-terminal subdomain and the carboxy-terminal subdomain, which bind respective consensus DNA sequences. The human Pax-6 gene produces two alternatively spliced isoforms that have the distinct structure of the paired domain.

REFERENCES

1. Hanson, I.M., et al. 1993. PAX6 mutations in aniridia. Hum. Mol. Genet. 2: 915-920.
2. 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.
3. Azuma, N., et al. 1999. Missense mutation in the alternative splice region of the PAX6 gene in eye anomalies. Am. J. Hum. Genet. 65: 656-663.

CHROMOSOMAL LOCATION

Genetic locus: PAX6 (human) mapping to 11p13; Pax6 (mouse) mapping to 2 E3.

SOURCE

Pax-6 (AD2.38) is a mouse monoclonal antibody raised against amino acids 1-206 mapping at the N-terminus of Pax-6 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 lambda 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-32766 X, 200 µg/0.1 ml.

Pax-6 (AD2.38) is available conjugated to agarose (sc-32766 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-32766 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-32766 PE), fluorescein (sc-32766 FITC), Alexa Fluor® 488 (sc-32766 AF488), Alexa Fluor® 546 (sc-32766 AF546), Alexa Fluor® 594 (sc-32766 AF594) or Alexa Fluor® 647 (sc-32766 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-32766 AF680) or Alexa Fluor® 790 (sc-32766 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

Pax-6 (AD2.38) is recommended for detection of Pax-6 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

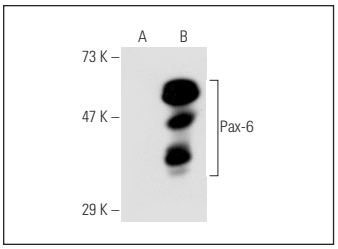
Suitable for use as control antibody for Pax-6 siRNA (h): sc-36195, Pax-6 siRNA (m): sc-36196, Pax-6 siRNA (r): sc-270113, Pax-6 shRNA Plasmid (h): sc-36195-SH, Pax-6 shRNA Plasmid (m): sc-36196-SH, Pax-6 shRNA Plasmid (r): sc-270113-SH, Pax-6 shRNA (h) Lentiviral Particles: sc-36195-V, Pax-6 shRNA (m) Lentiviral Particles: sc-36196-V and Pax-6 shRNA (r) Lentiviral Particles: sc-270113-V.

Pax-6 (AD2.38) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

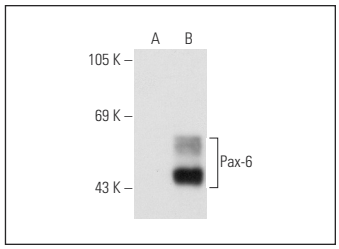
Molecular Weight of Pax-6: 47 kDa.

Positive Controls: Pax-6 (m): 293T Lysate: sc-127299, Pax-6 (h3): 293T Lysate: sc-176117 or Y79 nuclear extract: sc-2126.

DATA



Pax-6 (AD2.38): sc-32766. Western blot analysis of Pax-6 expression in non-transfected: sc-117752 (**A**) and mouse Pax-6 transfected: sc-127299 (**B**) 293T whole cell lysates.



Pax-6 (AD2.38): sc-32766. Western blot analysis of Pax-6 expression in non-transfected: sc-117752 (**A**) and human Pax-6 transfected: sc-176117 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ding, J., et al. 2009. Pax-6 haploinsufficiency causes abnormal metabolic homeostasis by down-regulating Glucagon-like peptide 1 in mice. Endocrinology 150: 2136-2144.
2. Pauly, M.C., et al. 2013. Organization of the human fetal subpallium. Front. Neuroanat. 7: 54.
3. Raviv, S., et al. 2014. PAX6 regulates melanogenesis in the retinal pigmented epithelium through feed-forward regulatory interactions with MITF. PLoS Genet. 10: e1004360.
4. Casco-Robles, M.M., et al. 2016. Turning the fate of reprogramming cells from retinal disorder to regeneration by Pax6 in newts. Sci. Rep. 6: 33761.
5. Castro-Muñozledo, F., et al. 2017. Vimentin as a marker of early differentiating, highly motile corneal epithelial cells. J. Cell. Physiol. 232: 818-830.

RESEARCH USE

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