

Pax-6 (AD2.35): sc-53108

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.

CHROMOSOMAL LOCATION

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

SOURCE

Pax-6 (AD2.35) 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_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Pax-6 (AD2.35) is available conjugated to agarose (sc-53108 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53108 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53108 PE), fluorescein (sc-53108 FITC), Alexa Fluor® 488 (sc-53108 AF488), Alexa Fluor® 546 (sc-53108 AF546), Alexa Fluor® 594 (sc-53108 AF594) or Alexa Fluor® 647 (sc-53108 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53108 AF680) or Alexa Fluor® 790 (sc-53108 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Pax-6 (AD2.35) is recommended for detection of Pax-6 of mouse, rat, human and avian 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).

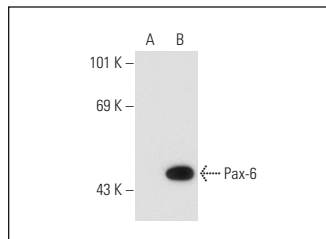
Suitable for use as control antibody for Pax-6 siRNA (h): sc-36195, Pax-6 siRNA (m): sc-36196, Pax-6 siRNA (r): sc-270113, Pax-6 shRNA Plasmid (h): sc-36195-SH, Pax-6 shRNA Plasmid (m): sc-36196-SH, Pax-6 shRNA Plasmid (r): sc-270113-SH, Pax-6 shRNA (h) Lentiviral Particles: sc-36195-V, Pax-6 shRNA (m)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

Molecular Weight of Pax-6: 47 kDa.

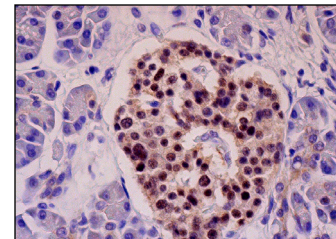
STORAGE

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

DATA



Pax-6 (AD2.35): sc-53108. Western blot analysis of Pax-6 expression in non-transfected: sc-117752 (A) and human Pax-6 transfected: sc-110018 (B) 293T whole cell lysates.



Pax-6 (AD2.35): sc-53108. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing nuclear and cytoplasmic staining of Islets of Langerhans.

SELECT PRODUCT CITATIONS

1. Lossi, L., et al. 2009. Posttranslational regulation of BCL2 levels in cerebellar granule cells: a mechanism of neuronal survival. *Dev. Neurobiol.* 69: 855-870.
2. Kaoru, T., et al. 2010. Molecular characterization of the intercalated cell masses of the amygdala: implications for the relationship with the striatum. *Neuroscience* 166: 220-230.
3. Hayashi, R., et al. 2012. Generation of corneal epithelial cells from induced pluripotent stem cells derived from human dermal fibroblast and corneal limbal epithelium. *PLoS ONE* 7: e45435.
4. Jami, A., et al. 2013. Pax6 expressed in osteocytes inhibits canonical Wnt signaling. *Mol. Cells* 35: 305-312.
5. Tokuda, K., et al. 2015. Up-regulation of DRP-3 long isoform during the induction of neural progenitor cells by glutamate treatment in the *ex vivo* rat retina. *Biochem. Biophys. Res. Commun.* 463: 593-599.
6. Kitazawa, K., et al. 2016. Pax-6 regulates human corneal epithelium cell identity. *Exp. Eye Res.* 154: 30-38.
7. Cheng, Q., et al. 2017. Role of miR-223/paired box 6 signaling in temozolomide chemoresistance in glioblastoma multiforme cells. *Mol. Med. Rep.* 15: 597-604.
8. He, J., et al. 2018. Generation of induced pluripotent stem cells from patients with COL3A1 mutations and differentiation to smooth muscle cells for ECM-surfaceome analyses. *Methods Mol. Biol.* 1722: 261-302.
9. Zhang, M., et al. 2018. MicroRNA-655 attenuates the malignant biological behaviours of retinoblastoma cells by directly targeting Pax-6 and suppressing the ERK and p38 MAPK signalling pathways. *Oncol. Rep.* 39: 2040-2050.

RESEARCH USE

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