SANTA CRUZ BIOTECHNOLOGY, INC.

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 iridolenticulo-corneal 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 $\mu g\, lgG_{2a}$ 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 μ g/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-53108 HRP), 200 μ g/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 μ g/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 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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 μ g per 100-500 μ g 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.

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.
- 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.
- 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.
- 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.
- Kitazawa, K., et al. 2016. Pax-6 regulates human corneal epithelium cell identity. Exp. Eye Res. 154: 30-38.
- 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.
- Wang, D., et al. 2017. Roles of TGFβ and FGF signals during growth and differentiation of mouse lens epithelial cell *in vitro*. Sci. Rep. 7: 7274.
- 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.

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Molecular Weight of Pax-6: 47 kDa.