

Pax-6 (AD1.5): sc-53106

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 (AD1.5) 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 IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

Pax-6 (AD1.5) is recommended for detection of Pax-6 of mouse, rat, human, avian and zebrafish 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)] and immunofluorescence (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.

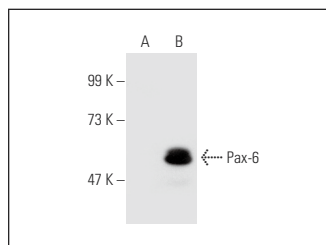
Molecular Weight of Pax-6: 47 kDa.

Positive Controls: Y79 nuclear extract: sc-2126, ARPE-19 whole cell lysate: sc-364357 or Pax-6 (m): 293T Lysate: sc-127299.

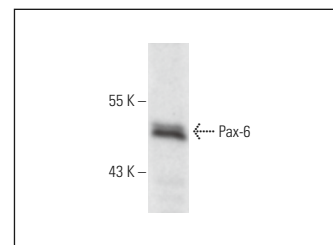
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Pax-6 (AD1.5): sc-53106. 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 (AD1.5): sc-53106. Western blot analysis of Pax-6 expression in ARPE-19 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Kannan, R.R. and Vincent, S.G. 2015. ELISA based quantification of Pax6 expression in the developing zebrafish embryos. *Ann. Neurosci.* 22: 171-175.
2. Chang, X.L., et al. 2017. The function of high-density lipoprotein and low-density lipoprotein in the maintenance of mouse ovarian steroid balance. *Biol. Reprod.* 97: 862-872.
3. Yan, F., et al. 2018. MicroRNA-383 suppresses cell proliferation and invasion in colorectal cancer by directly targeting paired box 6. *Mol. Med. Rep.* 17: 6893-6901.
4. He, G.H., et al. 2023. rs77283072 influences breast cancer susceptibility by regulating CDKN2A expression. *Oncol. Lett.* 25: 76.
5. Jongsgaard Larsen, L., et al. 2024. Generation of induced pluripotent stem cells, KCi005-A derived from a female with Parkinson's disease and homozygous for the PINK1 variant c.1366C > T, p.Gln456. *Stem Cell Res.* 74: 103279.

RESEARCH USE

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



See **Pax-6 (PAX6): sc-81649** for Pax-6 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.