

Retinal RX2 (N-12): sc-132426

BACKGROUND

Retinal RX2, also known as RAX2, QRX, RAXL1, ARMD6 or CORD11, is a 184 amino acid nuclear protein that contains one homeobox DNA-binding domain. Localized to the nucleus and preferentially expressed in the inner and outer nuclear layers of the retina, Retinal RX2 is thought to play a role in eye development, possibly modulating the expression of photoreceptor-specific genes. Via its homeobox domain, Retinal RX2 transactivates elements of the rhodopsin promoter, thereby modulating rhodopsin expression within the eye. Defects in the gene encoding Retinal RX2 are the cause of age-related macular degeneration type 6 (ARMD6) and cone-rod dystrophy type 11 (CORD11). While both ARMD6 and CORD11 result in impaired vision, ARMD6 is associated with accumulated protein and fat beneath the retinal pigment epithelium and CORD11 is associated with rod and cone photoreceptor degeneration.

REFERENCES

1. Tucker, P., Laemle, L., Munson, A., Kanekar, S., Oliver, E.R., Brown, N., Schlecht, H., Vetter, M. and Glaser, T. 2001. The eyeless mouse mutation (ey1) removes an alternative start codon from the Rx/rax homeobox gene. *Genesis* 31: 43-53.
2. Chuang J.C. and Raymond, P.A. 2001. Zebrafish genes rx1 and rx2 help define the region of forebrain that gives rise to retina. *Dev. Biol.* 231: 13-30.
3. Strickler, A.G., Famuditi, K. and Jeffery, W.R. 2002. Retinal homeobox genes and the role of cell proliferation in cavefish eye degeneration. *Int. J. Dev. Biol.* 46: 285-294.
4. Bailey, T.J., El-Hodiri, H., Zhang, L., Shah, R., Mathers, P.H. and Jamrich, M. 2004. Regulation of vertebrate eye development by Rx genes. *Int. J. Dev. Biol.* 48: 761-770.
5. Tabata, Y., Ouchi, Y., Kamiya, H., Manabe, T., Arai, K. and Watanabe, S. 2004. Specification of the retinal fate of mouse embryonic stem cells by ectopic expression of Rx/rax, a homeobox gene. *Mol. Cell. Biol.* 24: 4513-4521.
6. Voronina, V.A., Kozhemyakina, E.A., O'Kernick, C.M., Kahn, N.D., Wenger, S.L., Linberg, J.V., Schneider, A.S. and Mathers, P.H. 2004. Mutations in the human RAX homeobox gene in a patient with anophthalmia and sclerocornea. *Hum. Mol. Genet.* 2004 13: 315-322.
7. Recalde, S., Fernandez-Robredo, P., Altarriba, M., Salinas-Alaman, A. and García-Layana, A. 2008. Age-related macular degeneration genetics. *Ophthalmology* 115: 916-916.

CHROMOSOMAL LOCATION

Genetic locus: RAX2 (human) mapping to 19p13.3.

STORAGE

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

SOURCE

Retinal RX2 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Retinal RX2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-132426 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-132426 X, 200 µg/0.1 ml.

APPLICATIONS

Retinal RX2 (N-12) is recommended for detection of Retinal RX2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with Retinal RX.

Suitable for use as control antibody for Retinal RX2 siRNA (h): sc-97874, Retinal RX2 shRNA Plasmid (h): sc-97874-SH and Retinal RX2 shRNA (h) Lentiviral Particles: sc-97874-V.

Retinal RX2 (N-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Retinal RX2: 20 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RESEARCH USE

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

PROTOCOLS

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