SANTA CRUZ BIOTECHNOLOGY, INC.

VSX1 (N-13): sc-22547

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The Power to Question

BACKGROUND

Like other "paired-like" homeodomain family members, the visual system homeobox gene 1 (VSX1) is instrumental in craniofacial and ocular development; VSX1 plays a distinct role in retinal development. Also known as RINX (retinal inner nuclear layer homeobox), the VSX1 gene is expressed in embryonic craniofacial structures and in the adult retina. VSX1 is abundantly expressed in the inner nuclear layer (INL) of the retina. In mice, Vsx1 is first detected in the bipolar cells of the retina five days postnatal. The VSX1 gene is also expressed in WERI, a retinoblastoma cell line that expresses retinal cone genes. The human VSX1 gene maps to chromosome 20p11.21 and encodes a 365 amino acid protein with five known splice variants. VSX1 mutations are implicated in two distinct corneal dystrophies, posterior polymorphous dystrophy (PPD) and keratoconus.

REFERENCES

1. Semina, EV., et al. 2000. Isolation and characterization of a novel human paired-like homeodomain-containing transcription factor gene, VSX1, expressed in ocular tissues. Genomics 63: 289-193.
2. Hayashi, T., et al. 2000. RINX (VSX1), a novel homeobox gene expressed in the inner nuclear layer of the adult retina. Genomics 67: 128-139.
3. Chow, R.L., et al. 2001. Vsx1, a rapidly evolving paired-like homeobox gene expressed in cone bipolar cells. Mech. Dev. 109: 315-322.
4. Heon, E., et al. 2002. VSX1: a gene for posterior polymorphous dystrophy and keratoconus. Hum. Mol. Genet. 11: 1029-1036.
5. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605020. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: VSX1 (human) mapping to 20p11.21.

SOURCE

VSX1 (N-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of VSX1 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-22547 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 or our catalog for detailed protocols and support products.

APPLICATIONS

VSX1 (N-13) is recommended for detection of VSX1 L1 and S1 isoforms 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).

Suitable for use as control antibody for VSX1 siRNA (h): sc-38806, VSX1 shRNA Plasmid (h): sc-38806-SH and VSX1 shRNA (h) Lentiviral Particles: sc-38806-V.

Molecular Weight of VRK1 isoforms L1/S1/S2/S3: 38/25/39/14 kDa.

Molecular Weight of VRK1 isoforms 5/6/7/8: 30/23/25/32 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.

SELECT PRODUCT CITATIONS

1. Barbaro, V., et al. 2009. Reconstruction of a human hemicornea through natural scaffolds compatible with the growth of corneal epithelial stem cells and stromal keratocytes. Mol. Vis. 15: 2084-2093.

RESEARCH USE

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