

PPEF-1 (I-20): sc-22462

BACKGROUND

X-linked juvenile retinoschisis is a progressive vitreoretinal degeneration that maps to human chromosome Xp22.13. The gene, PPEF, is highly homologous to the retinal degeneration gene C (rdgC) found in *Drosophila melanogaster*, which is required to prevent light-induced retinal degeneration. PPEF-1 (protein protease with EF-hand motifs 1), a serine/threonine protein phosphatase, is expressed in the brain, with particularly high expression seen in fetal brain. Specifically, PPEF is highly expressed in sensory neurons of the dorsal root ganglia (DRG) and neural crest-derived cranial ganglia. Another homolog, PPEF-2, maps to human chromosome 4. In the adult, PPEF-2 is expressed specifically in retinal rod photoreceptors and the pineal. In the retina, several isoforms of PPEF-2 are predicted to arise from differential splicing. Through gene disruption studies, it has been determined that in contrast to loss of rdgC function in *Drosophila*, elimination of PPEF function does not cause retinal degeneration in vertebrates.

REFERENCES

1. Montini, E., Rugarli, E.I., Van de Vosse, E., Andolfi, G., Mariani, M., Puca, A.A., Consalez, G.G., den Dunnen, J.T., Ballabio, A. and Franco, B. 1997. A novel human serine-threonine phosphatase related to the *Drosophila* retinal degeneration C (rdgC) gene is selectively expressed in sensory neurons of neural crest origin. *Hum. Mol. Genet.* 6: 1137-1145.
2. Sherman, P.M., Sun, H., Macke, J.P., Williams, J., Smallwood, P.M. and Nathans, J. 1997. Identification and characterization of a conserved family of protein serine/threonine phosphatases homologous to *Drosophila* retinal degeneration C. *Proc. Natl. Acad. Sci. USA* 94: 11639-11644.
3. Ramulu, P., Kennedy, M., Xiong, W.H., Williams, J., Cowan, M., Blesh, D., Yau, K.W., Hurley, J.B. and Nathans, J. 2001. Normal light response, photoreceptor integrity, and rhodopsin dephosphorylation in mice lacking both protein phosphatases with EF hands (PPEF-1 and PPEF-2). *Mol. Cell. Biol.* 21: 8605-8614.
4. LocusLink Report (LocusID: 300109). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

Genetic locus: PPEF1 (human) mapping to Xp22.13.

SOURCE

PPEF-1 (I-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PPEF-1 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-22462 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.

APPLICATIONS

PPEF-1 (I-20) is recommended for detection of PPEF-1 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).

PPEF-1 (I-20) is also recommended for detection of PPEF-1 in additional species, including bovine and porcine.

Suitable for use as control antibody for PPEF-1 siRNA (h): sc-106436, PPEF-1 shRNA Plasmid (h): sc-106436-SH and PPEF-1 shRNA (h) Lentiviral Particles: sc-106436-V.

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.