

# PPEF-1 (SW-67): sc-134424

## BACKGROUND

X-linked juvenile retinoschisis is a progressive vitreoretinal degeneration that maps to human chromosome Xp22.2-p22.1. 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: 602256). <http://www.ncbi.nlm.nih.gov/LocusLink/>

## CHROMOSOMAL LOCATION

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

## SOURCE

PPEF-1 (SW-67) is a mouse monoclonal antibody raised against recombinant PPEF-1 protein of human origin.

## PRODUCT

Each vial contains 100 µg IgG<sub>1</sub> 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.

## RESEARCH USE

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

## APPLICATIONS

PPEF-1 (SW-67) is recommended for detection of PPEF-1 of human 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

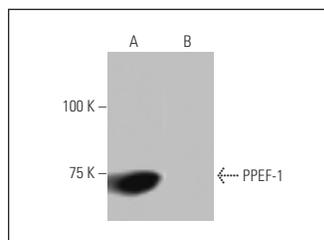
Suitable for use as control antibody for PPEF-1 siRNA (h): sc-106436, PPEF-1 shRNA Plasmid (h): sc-106436-SH and PPEF-1 shRNA (h) Lentiviral Particles: sc-106436-V.

Positive Controls: human PPEF-1 transfected 293T whole cell lysate.

## 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).

## DATA



PPEF-1 (SW-67): sc-134424. Western blot analysis of PPEF-1 expression in human PPEF-1 transfected (A) and non-transfected (B) 293T whole cell lysates.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.