

# HRG4 (L-17): sc-82931

## BACKGROUND

HRG4 (human retinal protein 4), also known as UNC119, is a 240 amino acid photoreceptor synaptic protein belonging to the PDE6D/UNC119 family. HRG4 is retinal-specific and localizes to photoreceptor synapses in the outer plexiform layer of the retina. HRG4 may play a role in the mechanism of photoreceptor neurotransmitter release through the synaptic vesicle cycle. Mutations in the gene encoding HRG4 may lead to cone-rod dystrophy, an inherited progressive disease that causes deterioration of cone and rod photoreceptor cells and often results in blindness. It is suggested that HRG4 is the only synaptic protein known to be highly enriched in photoreceptor ribbon synapses. HRG4 interacts with CaBP4 in the absence of calcium.

## REFERENCES

- Higashide, T., et al. 1998. Localization of HRG4, a photoreceptor protein homologous to UNC119, in ribbon synapse. *Invest. Ophthalmol. Vis. Sci.* 39: 690-698.
- Higashide, T. and Inana, G. 1999. Characterization of the gene for HRG4 (UNC119), a novel photoreceptor synaptic protein homologous to UNC119. *Genomics* 57: 446-450.
- Kobayashi, A., et al. 2000. HRG4 (UNC119) mutation found in cone-rod dystrophy causes retinal degeneration in a transgenic model. *Invest. Ophthalmol. Vis. Sci.* 41: 3268-3277.
- Maduro, M.F., et al. 2000. The UNC119 family of neural proteins is functionally conserved between humans, *Drosophila* and *C. elegans*. *J. Neurogenet.* 13: 191-212.
- Kubota, S., et al. 2002. Changes in retinal synaptic proteins in the transgenic model expressing a mutant HRG4 (UNC119). *Invest. Ophthalmol. Vis. Sci.* 43: 308-313.
- Kobayashi, A., et al. 2003. Photoreceptor synaptic protein HRG4 (UNC119) interacts with ARL2 via a putative conserved domain. *FEBS Lett.* 534: 26-32.

## CHROMOSOMAL LOCATION

Genetic locus: UNC119 (human) mapping to 17q11.2; Unc119 (mouse) mapping to 11 B5.

## SOURCE

HRG4 (L-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HRG4 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-82931 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

HRG4 (L-17) is recommended for detection of HRG4 of mouse, rat and 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)], 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 other HRG family members.

HRG4 (L-17) is also recommended for detection of HRG4 in additional species, including equine and canine.

Suitable for use as control antibody for HRG4 siRNA (h): sc-75299, HRG4 siRNA (m): sc-75300, HRG4 shRNA Plasmid (h): sc-75299-SH, HRG4 shRNA Plasmid (m): sc-75300-SH, HRG4 shRNA (h) Lentiviral Particles: sc-75299-V and HRG4 shRNA (m) Lentiviral Particles: sc-75300-V.

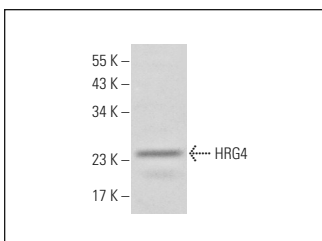
Molecular Weight of HRG4: 27 kDa.

Positive Controls: mouse brain extract: sc-2253.

## 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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

## DATA



HRG4 (L-17): sc-82931. Western blot analysis of HRG4 expression in mouse eye tissue extract.

## RESEARCH USE

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

## PROTOCOLS

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