

## Nir1 (C-16): sc-68687

### BACKGROUND

The Nirs (Nir1, Nir2 and Nir3), human homologues of *Drosophila* retinal degeneration B (rdgB), have been considered candidate genes for human inherited retinal degeneration diseases. The three Nir proteins are highly expressed in the developing retina, each exhibiting a distinct distribution profile. Nir1, also known as CORD5, RDGBA3 or PITPNM3, is a 974 amino acid peripheral membrane protein that belongs to the PtdIns transfer protein family. Nir1 is expressed in the brain and spleen, and at low levels in ovary. Nir1 interacts with PYK2 via its C-terminus and catalyzes the transfer of phosphatidylinositol and phosphatidylcholine between membranes. Defects in Nir1 are the cause of cone-rod dystrophy type 5 (CORD5). CORDs are inherited retinal dystrophies belonging to the group of pigmentary retinopathies. CORDs are characterized by retinal pigment deposits visible on fundus examination, predominantly in the macular region, and initial loss of cone photoreceptors followed by rod degeneration, which leads to decreased visual acuity and sensitivity in the central visual field, followed by loss of peripheral vision.

### REFERENCES

1. Fullwood, Y., et al. 1999. Cloning and characterization of a novel human phosphatidylinositol transfer protein, rdgB $\beta$ . *J. Biol. Chem.* 274: 31553-31558.
2. Lev, S., et al. 1999. Identification of a novel family of targets of PYK2 related to *Drosophila* retinal degeneration B (rdgB) protein. *Mol. Cell. Biol.* 19: 2278-2288.
3. Litvak, V., et al. 2002. Targeting of Nir2 to lipid droplets is regulated by a specific threonine residue within its PI-transfer domain. *Curr. Biol.* 12: 1513-1518.
4. Tian, D. and Lev, S. 2002. Cellular and developmental distribution of human homologues of the *Drosophila* rdgB protein in the rat retina. *Invest. Ophthalmol. Vis. Sci.* 43: 1946-1953.
5. Tian, D., et al. 2002. Nir2, a novel regulator of cell morphogenesis. *Mol. Cell. Biol.* 22: 2650-2662.
6. Litvak, V., et al. 2002. Nir2, a human homolog of *Drosophila melanogaster* retinal degeneration B protein, is essential for cytokinesis. *Mol. Cell. Biol.* 22: 5064-5075.

### CHROMOSOMAL LOCATION

Genetic locus: PITPNM3 (human) mapping to 17p13.2; Pitpnm3 (mouse) mapping to 11 B4.

### SOURCE

Nir1 (C-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of Nir1 of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-68687 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

Nir1 (C-16) is recommended for detection of Nir1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

Nir1 (C-16) is also recommended for detection of Nir1 in additional species, including equine and porcine.

Suitable for use as control antibody for Nir1 siRNA (h): sc-75924, Nir1 siRNA (m): sc-75925, Nir1 shRNA Plasmid (h): sc-75924-SH, Nir1 shRNA Plasmid (m): sc-75925-SH, Nir1 shRNA (h) Lentiviral Particles: sc-75924-V and Nir1 shRNA (m) Lentiviral Particles: sc-75925-V.

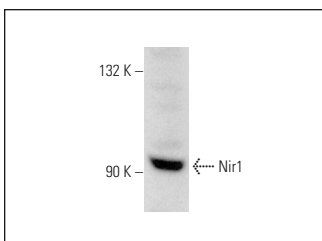
Molecular Weight of Nir1: 108 kDa.

Positive Controls: Raji whole cell lysate: sc-364236.

### 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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> 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<sup>™</sup> Mounting Medium: sc-24941.

### DATA



Nir1 (C-16): sc-68687. Western blot analysis of Nir1 expression in Raji whole cell lysate.

### 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.

### PROTOCOLS

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