SANTA CRUZ BIOTECHNOLOGY, INC.

Nir2 (N-18): sc-23662

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The Power to Question

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. Immunolocalization studies revealed that Nir2 is mainly localized in the Golgi apparatus in interphase cells, but it is recruited to the cleavage furrow and the midbody during cytokinesis. Additionally, Nir2, like RdgB, contains an amino-terminal phosphatidylinositol-transfer protein (PITP)-like domain and is essential for cytokinesis. In contrast to related PITP proteins, the rdgB proteins, which include Nir2 and Nir3, contain an amino-terminal PITP-like domain, an acidic, calcium-binding domain, six putative transmembrane domains, and a conserved carboxyl-terminal domain. It has been suggested that Nir and rdgB proteins represent a new family of evolutionarily conserved PYK2-binding proteins that play a role in the control of calcium and phosphoinositide metabolism downstream of G protein-coupled receptors.

REFERENCES

1. Fullwood, Y., et al. 1999. Cloning and characterization of a novel human phosphatidylinositol transfer protein, rdgB β. J. Biol. Chem. 274: 31553-31558.
2. Tian, D. and Lev, S. 2002. Cellular and developmental distribution of human homologues of the *Drosophilia* rdgB protein in the rat retina. Invest. Ophthalmol. Vis. Sci. 43: 1946-1953.
3. Tian, D., et al. 2002. Nir2, a novel regulator of cell morphogenesis. Mol. Cell. Biol. 22: 2650-2662.
4. 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.
5. 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.

CHROMOSOMAL LOCATION

Genetic locus: PITPNM1 (human) mapping to 11q13.2; Pitpnm1 (mouse) mapping to 19 A.

SOURCE

Nir2 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Nir2 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-23662 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

Nir2 (N-18) is recommended for detection of Nir2 of mouse, rat and 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).

Nir2 (N-18) is also recommended for detection of Nir2 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for Nir2 siRNA (h): sc-40853, Nir2 siRNA (m): sc-40854, Nir2 shRNA Plasmid (h): sc-40853-SH, Nir2 shRNA Plasmid (m): sc-40854-SH, Nir2 shRNA (h) Lentiviral Particles: sc-40853-V and Nir2 shRNA (m) Lentiviral Particles: sc-40854-V.

Molecular Weight of Nir2: 170 kDa.

Positive Controls: rat brain extract: sc-2392.

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.

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.