SANTA CRUZ BIOTECHNOLOGY, INC.

Nir2 (8): sc-136140

SANTA CRUZ BIOTECHNOLOGY

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, RdgBβ. 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 (mouse) mapping to 19 A.

SOURCE

Nir2 (8) is a mouse monoclonal antibody raised against amino acids 235-332 of Nir2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 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. Not for resale.

APPLICATIONS

Nir2 (8) is recommended for detection of Nir2 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

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

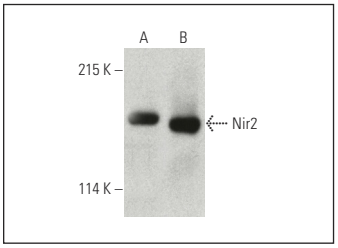
Molecular Weight of Nir2: 170 kDa.

Positive Controls: LADMAC whole cell lysate: sc-364189, rat brain extract: sc-2392 or rat cerebellum extract: sc-2398.

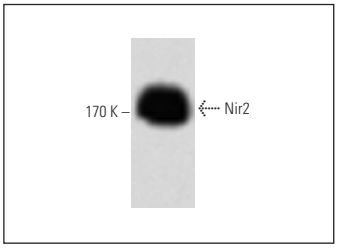
RECOMMENDED SUPPORT REAGENTS

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



Nir2 (8): sc-136140. Western blot analysis of Nir2 expression in LADMAC whole cell lysate (**A**) and rat cerebellum tissue extract (**B**). Detection reagent used: m-IgGκ BP-HRP: sc-516102.



Nir2 (8): sc-136140. Western blot analysis of Nir2 expression in rat cerebrum tissue extract.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.