

Nischarin (N-15): sc-47239

BACKGROUND

Integrins play important roles in key cellular functions, including cytoskeletal organization, growth, survival, motility and gene expression regulation. Nischarin is a novel intracellular protein, that binds to the cytoplasmic domain of Integrin $\alpha 5/\beta 1$ and interacts with various members of the PAK family of kinases. Nischarin binding to PAK1 inhibits the ability of PAK1 to phosphorylate substrates. When bound, this complex localizes to membrane ruffles which are involved in cell motility. Nischarin also acts as an antagonist of Rac function on cell movement and alters Actin filament organization. These functions give Nischarin a possible role in cell migration regulation. Nischarin is a primarily cytoplasmic protein primarily expressed in kidney and brain.

REFERENCES

1. Lim K.P and Hong W. 2004. Human Nischarin/imidazoline receptor antisera-selected protein is targeted to the endosomes by a combined action of a PX domain and a coiled-coil region. *J. Biol. Chem.* 279: 54770-54782.
2. Alahari, S.K., et al. 2004. The integrin-binding protein Nischarin regulates cell migration by inhibiting PAK. *EMBO J.* 23: 2777-2788.
3. Dontenwill, M., et al. 2004. IRAS is an anti-apoptotic protein. *Ann. N.Y. Acad. Sci.* 1009: 400-412.
4. Chen, M.J., et al. 2004. Intracellular effect of imidazoline receptor on $\alpha(2A)$ -noradrenergic receptor. *Ann. N.Y. Acad. Sci.* 1009: 427-438.
5. Zhu, H., et al. 2004. Relationship between platelet imidazoline receptor-binding peptides and candidate imidazoline-1 receptor, IRAS. *Ann. N.Y. Acad. Sci.* 1009: 439-446.

CHROMOSOMAL LOCATION

Genetic locus: NISCH (human) mapping to 3p21.1; Nisch (mouse) mapping to 14 B.

SOURCE

Nischarin (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Nischarin of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-47239 P, (100 μ g 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.

PROTOCOLS

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

APPLICATIONS

Nischarin (N-15) is recommended for detection of Nischarin 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).

Nischarin (N-15) is also recommended for detection of Nischarin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Nischarin siRNA (h): sc-61201, Nischarin siRNA (m): sc-61202, Nischarin shRNA Plasmid (h): sc-61201-SH, Nischarin shRNA Plasmid (m): sc-61202-SH, Nischarin shRNA (h) Lentiviral Particles: sc-61201-V and Nischarin shRNA (m) Lentiviral Particles: sc-61202-V.

Molecular Weight of Nischarin: 190 kDa.

Positive Controls: PC-12 cell lysate: sc-2250.

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.

SELECT PRODUCT CITATIONS

1. Jain, P., et al. 2013. Integrin-binding protein nischarin interacts with tumor suppressor liver kinase B1 (LKB1) to regulate cell migration of breast epithelial cells. *J. Biol. Chem.* 288: 15495-15509.

RESEARCH USE

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