

# Nischarin (F-3): sc-374408

## 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. Dontenwill, M., et al. 2003. IRAS is an anti-apoptotic protein. *Ann. N.Y. Acad. Sci.* 1009: 400-412.
2. Chen, M.J., et al. 2003. Intracellular effect of imidazoline receptor on  $\alpha_{2A}$ -noradrenergic receptor. *Ann. N.Y. Acad. Sci.* 1009: 427-438.
3. Zhu, H., et al. 2003. Relationship between platelet imidazoline-1 receptor, IRAS. *Ann. N.Y. Acad. Sci.* 1009: 439-446.
4. 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.
5. Alahari, S.K., et al. 2004. The integrin-binding protein Nischarin regulates cell migration by inhibiting PAK. *EMBO J.* 23: 2777-2788.

## CHROMOSOMAL LOCATION

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

## SOURCE

Nischarin (F-3) is a mouse monoclonal antibody raised against amino acids 1212-1504 mapping at the C-terminus of Nischarin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Nischarin (F-3) is available conjugated to agarose (sc-374408 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374408 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374408 PE), fluorescein (sc-374408 FITC), Alexa Fluor<sup>®</sup> 488 (sc-374408 AF488), Alexa Fluor<sup>®</sup> 546 (sc-374408 AF546), Alexa Fluor<sup>®</sup> 594 (sc-374408 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-374408 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-374408 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-374408 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

Nischarin (F-3) is recommended for detection of Nischarin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for Nischarin siRNA (h): sc-61201, Nischarin siRNA (m): sc-61202, Nischarin siRNA (r): sc-108099, Nischarin shRNA Plasmid (h): sc-61201-SH, Nischarin shRNA Plasmid (m): sc-61202-SH, Nischarin shRNA Plasmid (r): sc-108099-SH, Nischarin shRNA (h) Lentiviral Particles: sc-61201-V, Nischarin shRNA (m) Lentiviral Particles: sc-61202-V and Nischarin shRNA (r) Lentiviral Particles: sc-108099-V.

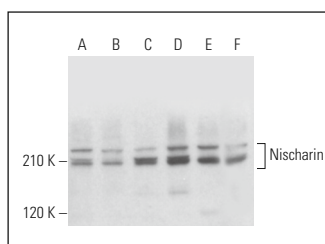
Molecular Weight of Nischarin: 190 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, K-562 whole cell lysate: sc-2203 or U-698-M whole cell lysate: sc-364799.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



Nischarin (F-3): sc-374408. Western blot analysis of Nischarin expression in GA-10 (A), Hep G2 (B), K-562 (C), MEG-01 (D), U-698-M (E) and HEL 92.1.7 (F) whole cell lysates.



Nischarin (F-3): sc-374408. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing intercalated discs and cytoplasmic staining of myocytes.

## 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) for detailed protocols and support products.