

# NIPP1 (B-4): sc-271749

## BACKGROUND

NIPP1 (nuclear inhibitor of protein phosphatase 1) is a putative transcription regulator that may be involved in pre-mRNA splicing and cell proliferation. NIPP1 contains a nuclear signaling region named FHA (forkhead-associated) domain. The FHA domain has been associated with protein kinases and transcription factors. The NIPP1 locus encodes for three different isoforms, termed  $\alpha$ ,  $\beta$  and  $\gamma$ , due to alternative splicing events. The isoforms exhibit RNA binding activity and also act as phosphatase inhibitors. The  $\gamma$  isoform is believed to be a magnesium-dependent endoribonuclease that is responsible for cleaving RNA strands. It is mainly found in B cells and T lymphocytes. The  $\alpha$  and  $\beta$  isoforms are localized in the brain and kidney. Inactivation of NIPP1 is accomplished by the phosphorylation of Ser 199 or Ser 204. NIPP1 interacts with proteins CDc5L, SAP 155, MELK and EED.

## REFERENCES

1. Van Eynde, A., et al. 1995. Molecular cloning of NIPP1, a nuclear inhibitor of protein phosphatase 1, reveals homology with polypeptides involved in RNA processing. *J. Biol. Chem.* 270: 28068-28074.
2. Van Eynde, A., et al. 1999. Organization and alternate splice products of the gene encoding nuclear inhibitor of protein phosphatase 1 (NIPP1). *Eur. J. Biochem.* 261: 291-300.
3. Boudrez, A., et al. 2002. Phosphorylation-dependent interaction between the splicing factors SAP 155 and NIPP1. *J. Biol. Chem.* 277: 31834-31841.
4. Parker, L., et al. 2002. Functional interaction between nuclear inhibitor of protein phosphatase type 1 (NIPP1) and protein phosphatase type 1 (PP1) in *Drosophila*: consequences of overexpression of NIPP1 in flies and suppression by coexpression of PP1. *Biochem. J.* 368: 789-797.
5. Vulsteke, V., et al. 2004. Inhibition of spliceosome assembly by the cell cycle-regulated protein kinase MELK and involvement of splicing factor NIPP1. *J. Biol. Chem.* 279: 8642-8647.
6. Van Eynde, A., et al. 2004. The nuclear scaffold protein NIPP1 is essential for early embryonic development and cell proliferation. *Mol. Cell. Biol.* 24: 5863-5874.

## CHROMOSOMAL LOCATION

Genetic locus: PPP1R8 (human) mapping to 1p35.3; Ppp1r8 (mouse) mapping to 4 D2.3.

## SOURCE

NIPP1 (B-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 283-305 near the C-terminus of NIPP1 of human origin.

## PRODUCT

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

Blocking peptide available for competition studies, sc-271749 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

NIPP1 (B-4) is recommended for detection of NIPP1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

NIPP1 (B-4) is also recommended for detection of NIPP1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for NIPP1 siRNA (h): sc-62689, NIPP1 siRNA (m): sc-62690, NIPP1 shRNA Plasmid (h): sc-62689-SH, NIPP1 shRNA Plasmid (m): sc-62690-SH, NIPP1 shRNA (h) Lentiviral Particles: sc-62689-V and NIPP1 shRNA (m) Lentiviral Particles: sc-62690-V.

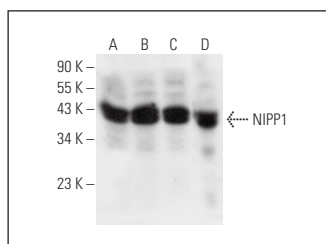
Molecular Weight of NIPP1: 39/41-47 kDa.

Positive Controls: SJRH30 cell lysate: sc-2287, KNRK whole cell lysate: sc-2214 or SK-N-MC cell lysate: sc-2237.

## 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™ 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). 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® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



NIPP1 (B-4): sc-271749. Western blot analysis of NIPP1 expression in SJRH30 (A), Saos-2 (B), SK-N-MC (C) and KNRK (D) whole cell lysates.

## 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.