SANTA CRUZ BIOTECHNOLOGY, INC.

NIPP1 (4): sc-136425

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 α, β and γ, due to alternative splicing events. The isoforms exhibit RNA binding activity and also act as phophatase inhibitors. The γ 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 α and β 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. 1996. 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.
7. Ammosova, T., et al. 2005. Dephosphorylation of Cdk9 by protein phosphatase 2A and protein phosphatase 1 in Tat-activated HIV-1 transcription. Retrovirology 2: 47.

CHROMOSOMAL LOCATION

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

SOURCE

NIPP1 (4) is a mouse monoclonal antibody raised against amino acids 233-351 of NIPP1 of human 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.

APPLICATIONS

NIPP1 (4) is recommended for detection of NIPP1 of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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.

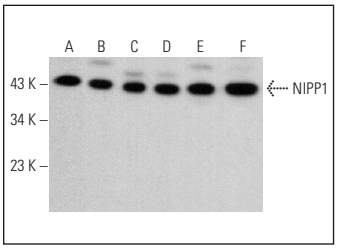
Molecular Weight of NIPP1: 39/41-47 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, SJRH30 cell lysate: sc-2287 or C2C12 whole cell lysate: sc-364188.

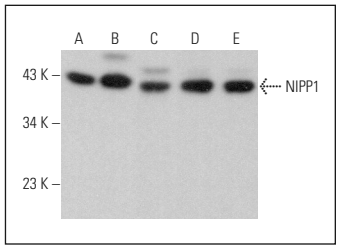
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 (4): sc-136425. Western blot analysis of NIPP1 expression in Jurkat (**A**), NTERA-2 cl.D1 (**B**), NIH/3T3 (**C**), RAW 264.7 (**D**), HUV-EC-C (**E**) and CCRF-CEM (**F**) whole cell lysates.



NIPP1 (4): sc-136425. Western blot analysis of NIPP1 expression in Jurkat (**A**), SJRH30 (**B**), C2C12 (**C**), BC_3H1 (**D**) and WEHI-231 (**E**) 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.

PROTOCOLS

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