

NPAL1 (C-19): sc-248101

BACKGROUND

NPAL1, also known as NIPAL1 or NIPA3 (non-imprinted in Prader-Willi/Angelman syndrome region protein 3), is a 410 amino acid multi-pass membrane protein that belongs to the NIPA family. Although it acts mainly as a Mg²⁺ transporter, NPAL1 can also transport other divalent cations such as Fe²⁺, Sr²⁺, Ba²⁺, Mn²⁺, Cu²⁺ and Co²⁺. The gene that encodes NPAL1 consists of more than 126,000 bases and maps to human chromosome 4p12. Chromosome 4 represents approximately 6% of the human genome and contains nearly 900 genes. Notably, the Huntingtin gene, which is found to encode an expanded glutamine tract in cases of Huntington's disease, is encoded by a gene that maps to chromosome 4. FGFR-3 is also encoded by a gene located on chromosome 4 and has been associated with thanatophoric dwarfism, achondroplasia, Muenke syndrome and bladder cancer. Chromosome 4 is also tied to Ellis-van Creveld syndrome, methylmalonic acidemia and polycystic kidney disease.

REFERENCES

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2. Kalchman, M.A., Graham, R.K., Xia, G., Koide, H.B., Hodgson, J.G., Graham, K.C., Goldberg, Y.P., Gietz, R.D., Pickart, C.M. and Hayden, M.R. 1996. Huntingtin is ubiquitinated and interacts with a specific ubiquitin-conjugating enzyme. *J. Biol. Chem.* 271: 19385-19394.
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4. Singhrao, S.K., Thomas, P., Wood, J.D., MacMillan, J.C., Neal, J.W., Harper, P.S. and Jones, A.L. 1998. Huntingtin protein colocalizes with lesions of neurodegenerative diseases: An investigation in Huntington's, Alzheimer's, and Pick's diseases. *Exp. Neurol.* 150: 213-222.

CHROMOSOMAL LOCATION

Genetic locus: NIPAL1 (human) mapping to 4p12.

SOURCE

NPAL1 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of NPAL1 of human origin.

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.

PRODUCT

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

Blocking peptide available for competition studies, sc-248101 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NPAL1 (C-19) is recommended for detection of NPAL1 of human 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)], 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); non cross-reactive with NPAL2 or NPAL3.

Suitable for use as control antibody for NPAL1 siRNA (h): sc-89242, NPAL1 shRNA Plasmid (h): sc-89242-SH and NPAL1 shRNA (h) Lentiviral Particles: sc-89242-V.

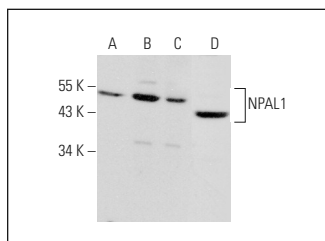
Molecular Weight of NPAL1: 45 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or Raji whole cell lysate: sc-364236.

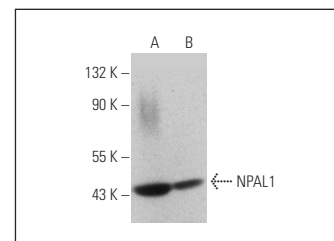
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



NPAL1 (C-19): sc-248101. Western blot analysis of NPAL1 expression in HeLa (A), Jurkat (B), K-562 (C) and Raji (D) whole cell lysates.



NPAL1 (C-19): sc-248101. Western blot analysis of NPAL1 expression in SCC-4 (A) and JAR (B) whole cell lysates.

RESEARCH USE

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