

# PNAd (E-11): sc-166493

## BACKGROUND

PNAd, Protein N-terminal asparagine amidohydrolase, is a 310 amino acid protein encoded by the human gene NTAN1. PNAd is responsible for the side-chain deamidation of N-terminal Asparagine residues to aspartate. It is required for the Ubiquitin-dependent turnover of intracellular proteins that initiate with Met-Asn. These proteins are acetylated on the retained initiator methionine and can subsequently be modified by the removal of N-acetyl methionine by acylaminoacid hydrolase (AAH). Conversion of the resulting N-terminal Asparagine to aspartate by PNAd renders the protein susceptible to arginylation, polyubiquitination and degradation as specified by the N-end rule. This enzyme does not act on substrates with internal or C-terminal asparagines and does not act on glutamine residues in any position.

## REFERENCES

1. Grigoryev, S., et al. 1996. A mouse amidase specific for N-terminal asparagine. The gene, the enzyme, and their function in the N-end rule pathway. *J. Biol. Chem.* 271: 28521-28532.
2. Balogh, S.A., et al. 2000. Varying intertrial interval reveals temporally defined memory deficits and enhancements in NTAN1-deficient mice. *Learn. Mem.* 7: 279-286.
3. Kwon, Y.T., et al. 2000. Altered activity, social behavior, and spatial memory in mice lacking the NTAN1p amidase and the asparagine branch of the N-end rule pathway. *Mol. Cell. Biol.* 20: 4135-4148.
4. Balogh, S.A., et al. 2001. Facilitated stimulus-response associative learning and long-term memory in mice lacking the NTAN1 amidase of the N-end rule pathway. *Brain Res.* 892: 336-343.

## CHROMOSOMAL LOCATION

Genetic locus: NTAN1 (human) mapping to 16p13.11; Ntan1 (mouse) mapping to 16 A1.

## SOURCE

PNAd (E-11) is a mouse monoclonal antibody raised against amino acids 171-310 mapping at the C-terminus of PNAd of human origin.

## PRODUCT

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

PNAd (E-11) is available conjugated to agarose (sc-166493 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166493 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166493 PE), fluorescein (sc-166493 FITC), Alexa Fluor® 488 (sc-166493 AF488), Alexa Fluor® 546 (sc-166493 AF546), Alexa Fluor® 594 (sc-166493 AF594) or Alexa Fluor® 647 (sc-166493 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166493 AF680) or Alexa Fluor® 790 (sc-166493 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-166493 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

PNAd (E-11) is recommended for detection of PNAd of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for PNAd siRNA (h): sc-62832, PNAd siRNA (m): sc-62833, PNAd shRNA Plasmid (h): sc-62832-SH, PNAd shRNA Plasmid (m): sc-62833-SH, PNAd shRNA (h) Lentiviral Particles: sc-62832-V and PNAd shRNA (m) Lentiviral Particles: sc-62833-V.

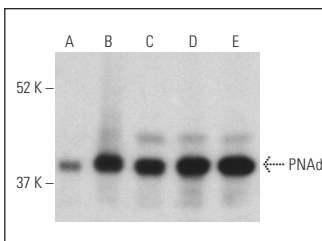
Molecular Weight of PNAd: 35 kDa.

Positive Controls: F9 cell lysate: sc-2245, SH-SY5Y cell lysate: sc-3812 or C6 whole cell lysate: sc-364373.

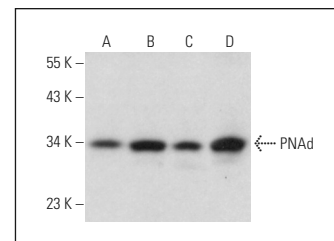
## RECOMMENDED SUPPORT REAGENTS

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



PNAd (E-11): sc-166493. Western blot analysis of PNAd expression in Hep G2 (A), 3T3-L1 (B), c4 (C), F9 (D) and C6 (E) whole cell lysates. Detection reagent used: m-IgG<sub>1</sub> BP-HRP: sc-525408.



PNAd (E-11): sc-166493. Western blot analysis of PNAd expression in SH-SY5Y (A), F9 (B), 3T3-L1 (C) and C6 (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.

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