

# NEDD4 (D-17): sc-14428



The Power to Question

## BACKGROUND

NEDD4 family interacting protein-1 (NDFIP1), also known as N4WBP5, is a member of a family of highly conserved proteins. NEDD4 is a 221 amino acid, Golgi-associated protein which contains three transmembrane domains in its carboxy-terminus and two PY motifs in its amino-terminus. NEDD4 may play a role in Golgi structure and function. It binds the WW domains of a number of NEDD4 family members called HECT-type E3 ubiquitin ligases. NEDD4 is strongly expressed in surviving neurons around an injury site, which suggests that ubiquitination may be a possible survival strategy and that NEDD4 may act as a neuroprotective protein. It may also have an effect on the function of Itch, another E3 ubiquitin ligase. Expression of NEDD4 and its association with Itch may be promoted by T cell activation. Mice lacking NEDD4 exhibit inactivation of Itch and accumulation of Jun B, causing severe skin and lung inflammation and premature death.

## REFERENCES

- Harvey, K.F., et al. 2002. N4WBP5, a potential target for ubiquitination by the NEDD4 family of proteins, is a novel Golgi-associated protein. *J. Biol. Chem.* 277: 9307-9317.
- Donnison, M., et al. 2004. Isolation of genes associated with developmentally competent bovine oocytes and quantitation of their levels during development. *Biol. Reprod.* 71: 1813-1821.
- Shearwin-Whyatt, L.M., et al. 2004. N4WBP5A ( NDFIP1), a NEDD4-interacting protein, localizes to multivesicular bodies and the Golgi, and has a potential role in protein trafficking. *J. Cell Sci.* 117: 3679-3689.
- Bennett, C.L., et al. 2005. Genetic heterogeneity for autosomal recessive pyridoxine-dependent seizures. *Neurogenetics* 6: 143-149.
- Oliver, P.M., et al. 2006. NDFIP1 protein promotes the function of itch ubiquitin ligase to prevent T cell activation and T helper 2 cell-mediated inflammation. *Immunity* 25: 929-940.
- Zhang, Y., et al. 2006. Differential expression profiling between the relative normal and dystrophic muscle tissues from the same LGMD patient. *J. Transl. Med.* 4: 53.
- Sang, Q., et al. 2006. NEDD4-WW domain-binding protein 5 (NDFIP1) is associated with neuronal survival after acute cortical brain injury. *J. Neurosci.* 26: 7234-7244.
- Shearwin-Whyatt, L., et al. 2006. Regulation of functional diversity within the NEDD4 family by accessory and adaptor proteins. *Bioessays* 28: 617-628.

## CHROMOSOMAL LOCATION

Genetic locus: NEDD4 (human) mapping to 15q21.3, NEDD4L (human) mapping to 18q21; Nedd4 (mouse) mapping to 9 D, Nedd4l (mouse) mapping to 18 E1

## SOURCE

NEDD4 (D-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NEDD4 -1 of human origin.

## 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-14428 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

NEDD4 (D-17) is recommended for detection of NEDD4-1 and, to a lesser extent, NEDD4-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

NEDD4 (D-17) is also recommended for detection of NEDD4 -1 and, to a lesser extent, NEDD4 -2 in additional species, including equine, porcine and avian.

Suitable for use as control antibody for NEDD4 siRNA (h): sc-41079, NEDD4 siRNA (m): sc-41080, NEDD4 siRNA (r): sc-270215, NEDD4 shRNA Plasmid (h): sc-41079-SH, NEDD4 shRNA Plasmid (m): sc-41080-SH, NEDD4 shRNA Plasmid (r): sc-270215-SH, NEDD4 shRNA (h) Lentiviral Particles: sc-41079-V, NEDD4 shRNA (m) Lentiviral Particles: sc-41080-V and NEDD4 shRNA (r) Lentiviral Particles: sc-270215-V.

Molecular Weight of NEDD4: 120 kDa.

## 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) 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.

## SELECT PRODUCT CITATIONS

- Yin, J., et al. 2004. Nuclear localization of the DOCK180/ELMO complex. *Arch. Biochem. Biophys.* 429: 23-29.
- Klein, B.Y., et al. 2011. PI3K/Akt responses to oxytocin stimulation in Caco2BB gut cells. *J. Cell. Biochem.* 112: 3216-3226.

## 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.