

NEDL1 (S-13): sc-163125

BACKGROUND

NEDL1 (NEDD4-like ubiquitin-protein ligase 1), also known as HECW1 (HECT, C2 and WW domain containing E3 ubiquitin protein ligase 1), is a 1,606 amino acid cytoplasmic protein predominantly expressed in neurons of adult and fetal brain. NEDL1 functions as an E3 ubiquitin-protein ligase that, characteristic of E3 ligase proteins, accepts ubiquitin (in the form of a thioester) from an E2 ubiquitin-conjugating enzyme and transfers that ubiquitin residue to substrates targeted for degradation. NEDL1 mediates ubiquitination and subsequent degradation of Dvl-1 and targets mutant SOD-1. NEDL1 forms cytotoxic aggregates with Dvl, TRAP- γ and mutant SOD1 that lead to motor neuron death in FALS (familial amyotrophic lateral sclerosis). Individuals affected by FALS (also known as Lou Gehrig's disease) experience muscle weakness and atrophy throughout the body. FALS is caused by the degeneration of upper and lower motor neurons resulting in loss of signal to muscles.

REFERENCES

1. Beckman, J.S., et al. 1993. ALS, SOD and peroxynitrite. *Nature* 364: 584.
2. Al-Chalabi, A. and Leigh, P.N. 2000. Recent advances in amyotrophic lateral sclerosis. *Curr. Opin. Neurol.* 13: 397-405.
3. Miyazaki, K., et al. 2004. NEDL1, a novel ubiquitin-protein isopeptide ligase for dishevelled-1, targets mutant superoxide dismutase-1. *J. Biol. Chem.* 279: 11327-11335.
4. 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.
5. Shearwin-Whyatt, L., et al. 2006. Regulation of functional diversity within the NEDD4 family by accessory and adaptor proteins. *Bioessays* 28: 617-628.
6. Phukan, J., et al. 2007. Cognitive impairment in amyotrophic lateral sclerosis. *Lancet Neurol.* 6: 994-1003.
7. Li, Y., et al. 2008. A novel HECT-type E3 ubiquitin protein ligase NEDL1 enhances the p53-mediated apoptotic cell death in its catalytic activity-independent manner. *Oncogene* 27: 3700-3709.
8. Mantripragada, K.K., et al. 2009. Genome-wide high-resolution analysis of DNA copy number alterations in NF1-associated malignant peripheral nerve sheath tumors using 32K BAC array. *Genes Chromosomes Cancer* 48: 897-907.
9. Li, Y., et al. 2009. WW domain containing E3 ubiquitin protein ligase 1 targets the full-length ErbB-4 for ubiquitin-mediated degradation in breast cancer. *Oncogene* 28: 2948-2958.

CHROMOSOMAL LOCATION

Genetic locus: HECW1 (human) mapping to 7p14.1; Hecw1 (mouse) mapping to 13 A1.

SOURCE

NEDL1 (S-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of NEDL1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-163125 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

NEDL1 (S-13) is recommended for detection of NEDL1 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); non cross-reactive with NEDL2.

NEDL1 (S-13) is also recommended for detection of NEDL1 in additional species, including canine and bovine.

Suitable for use as control antibody for NEDL1 siRNA (h): sc-89511, NEDL1 siRNA (m): sc-149899, NEDL1 shRNA Plasmid (h): sc-89511-SH, NEDL1 shRNA Plasmid (m): sc-149899-SH, NEDL1 shRNA (h) Lentiviral Particles: sc-89511-V and NEDL1 shRNA (m) Lentiviral Particles: sc-149899-V.

Molecular Weight of NEDL1: 180 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.

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 or our catalog for detailed protocols and support products.