

NEDD8

Reactivity:Human Mouse Rat

Tested applications:WB IHC IF

Recommended Dilution:WB 1:500 - 1:2000 IHC 1:50 - 1:100 IF 1:50 - 1:200

Calculated MW:9kDa

Observed MW:Refer to Figures

Immunogen:

Recombinant protein of human NEDD8

Storage Buffer:

Store at -20. Avoid freeze / thaw cycles. Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3.

Synonym:

NEDD8;FLJ43224;MGC104393;MGC125896;MGC125897;Nedd-8 ;

Catalog #:A1163

Antibody Type:

Polyclonal Antibody

Species:Rabbit

Gene ID:4738

Isotype:IgG

Swiss Prot:Q15843

Purity:Affinity purification

For research use only.

Background:

Neural precursor cell-expressed developmentally downregulated protein 8 (NEDD8), also known as Rub1 (related to ubiquitin 1) in plants and yeast, is a member of the ubiquitin-like protein family (1,2). The covalent attachment of NEDD8 to target proteins, termed neddylation, is a reversible, multi-step process analogous to ubiquitination. NEDD8 is first synthesized in a precursor form with a carboxy-terminal extension peptide that is removed by either the UCH-L3 or NEDP1/DEN1 hydrolase protein to yield a mature NEDD8 protein (3,4). Mature NEDD8 is then covalently linked to target proteins via the carboxy-terminal glycine residue in a reaction catalyzed by the APP-BP1/Uba3 heterodimer complex and Ubc12 as the E1- and E2-like enzymes, respectively (5). An E3 ligase protein, Roc1/Rbx1, is also required for neddylation of the cullin proteins (6). Protein de-neddylation is catalyzed by a number of enzymes in the cell, including a "ubiquitin-specific" protease USP21, the NEDP1/DEN1 hydrolase and the COP9/signalosome (CSN) (7,8,9). In contrast to the ubiquitin pathway, the NEDD8 modification system acts on only a few substrates and does not appear to target proteins for degradation. Neddylation of cullin proteins activates the SCF (Skp1-Cullin-F-box) E3 ubiquitin ligase complex by promoting complex formation and enhancing the recruitment of the E2-ubiquitin intermediate (10). While NEDD8 modification of VHL is not required for ubiquitination of HIF1-, it is required for fibronectin matrix assembly (11). Mdm2-dependent neddylation of p53 inhibits its transcriptional activity (12).

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