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NEDD4 Rabbit mAb

Catalog # AP76300

Product Information

Application	WB, FC, IP
Primary Accession	P46934
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Purification	Affinity Purified
Calculated MW	149114

Additional Information

Gene ID	4734
Other Names	NEDD4
Dilution	WB~~1:1000-1:5000 FC~~1:20-1:50 IP~~1:20-1:50
Format	Liquid in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

Protein Information

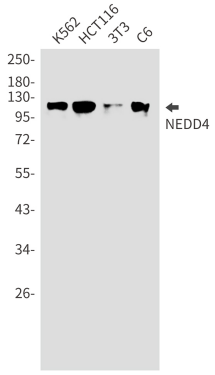
Name	NEDD4
Synonyms	KIAA0093, NEDD4-1, RPF1 {ECO:0000303|Pub
Function	E3 ubiquitin-protein ligase which accepts ubiquitin from an E2 ubiquitin-conjugating enzyme in the form of a thioester and then directly transfers the ubiquitin to targeted substrates. Specifically ubiquitinates 'Lys-63' in target proteins (PubMed:19920177, PubMed:21399620, PubMed:23644597). Involved in the pathway leading to the degradation of VEGFR-2/KDFR, independently of its ubiquitin-ligase activity. Monoubiquitinates IGF1R at multiple sites, thus leading to receptor internalization and degradation in lysosomes (By similarity). Ubiquitinates FGFR1, leading to receptor internalization and degradation in lysosomes (PubMed:21765395). Promotes ubiquitination of RAPGEF2 (PubMed:11598133). According to PubMed:18562292 the direct link between NEDD4 and PTEN regulation through polyubiquitination described in PubMed:17218260 is questionable. Involved in ubiquitination of ERBB4

	intracellular domain E4ICD (By similarity). Part of a signaling complex composed of NEDD4, RAP2A and TNIK which regulates neuronal dendrite extension and arborization during development (By similarity). Ubiquitinates TNK2 and regulates EGF-induced degradation of EGFR and TNF2 (PubMed:20086093). Ubiquitinates BRAT1 and this ubiquitination is enhanced in the presence of NDFIP1 (PubMed:25631046). Ubiquitinates DAZAP2, leading to its proteasomal degradation (PubMed:11342538). Ubiquitinates POLR2A (PubMed:19920177). Functions as a platform to recruit USP13 to form an NEDD4-USP13 deubiquitination complex that plays a critical role in cleaving the 'Lys-48'-linked ubiquitin chains of VPS34 and then stabilizing VPS34, thus promoting the formation of autophagosomes (PubMed:32101753).
Cellular Location	Cytoplasm. Nucleus. Cell membrane {ECO:0000250|UniProtKB:P46935}; Peripheral membrane protein {ECO:0000250|UniProtKB:P46935}. Note=Predominantly cytoplasmic but also located in the nucleus (PubMed:11342538). Recruited to the plasma membrane by GRB10. Once complexed with GRB10 and IGF1R, follows IGF1R internalization, remaining associated with early endosomes. Uncouples from IGF1R-containing endosomes before the sorting of the receptor to the lysosomal compartment (By similarity). May be recruited to exosomes by NDFIP1 (PubMed:18819914). {ECO:0000250|UniProtKB:P46935, ECO:0000269|PubMed:11342538, ECO:0000269|PubMed:18819914}

Background

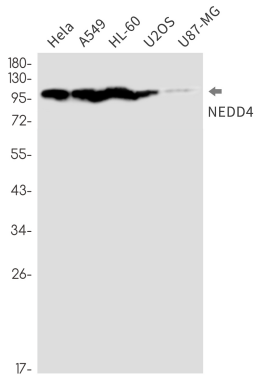
NEDD4 and similar proteins discovered subsequently became a family of HECT ligases, comprising 9 human proteins including NEDD4, NEDD4-2 (NEDD4L), ITCH, SMURF1, SMURF2, WWP1, WWP2, NEDL1 and NEDL2. NEDD4 is a highly evolutionarily conserved protein from yeast to man, and was initially cloned as a highly expressed gene in the early embryonic brain. NEDD4 is frequently overexpressed in many different types of cancer, and decreased levels of NEDD4 can also be associated with cancer. It can be a potential therapeutic target for the treatment of human cancer. (PMID: 25527121). The human NEDD4 gene is located on chromosome 15q21. 3 and comprises 30 exons (HGNC:7727) shown to encode a ~120 KDa protein. Otherwise there is a 75 kDa isoform in addition to full length NEDD4 (PMID: 24907641).

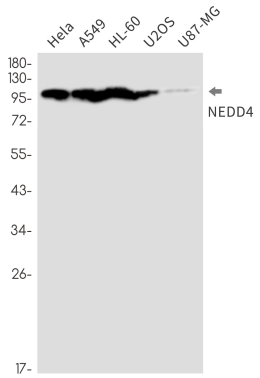
Images



Western blot analysis of NEDD4 in K562, HCT116, 3T3, C6 lysates using NEDD4 antibody.

Western blot analysis of NEDD4 in Hela, A549, HL-60, U2OS, U87-MG lysates using NEDD4 antibody.





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