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# NEDD4 (C5F5) Rabbit mAb



✓ 100 µl  
(10 western blots)

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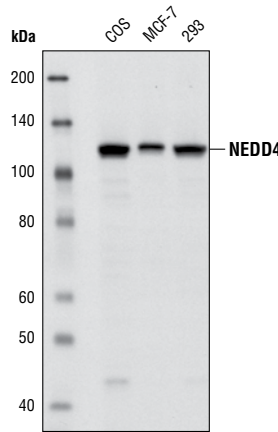
Entrez-Gene ID #4734  
Swiss-Prot Acc. #P46934

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP Endogenous	H, Mk, (Hr)	115 kDa	Rabbit IgG**

NEDD4 (neural precursor expressed, developmentally down-regulated protein 4) was originally identified as a gene that is highly expressed in the early mouse embryonic central nervous system (1). More recently, a family of NEDD4-like proteins has been defined that includes seven members in humans (2). NEDD4 and NEDD4-like (NEDD4L) proteins contain multiple functional domains including a calcium-dependent phospholipid and membrane binding domain (C2 domain), two to four protein binding domains (WW domains), and an E3 ubiquitin-protein ligase domain (HECT domain). NEDD4 and NEDD4L have been shown to downregulate both neuronal voltage-gated Na<sup>+</sup> channels (NaVs) and epithelial Na<sup>+</sup> channels (ENaCs) in response to increased intracellular Na<sup>+</sup> concentrations (3,4). The WW domains of NEDD4 bind to PY motifs (amino acid sequence PPXY) found in multiple NaV and ENaC proteins; ubiquitination of these proteins is mediated by the HECT domain of NEDD4 and results in their internalization and removal from the plasma membrane. Mutation of the PY motifs in ENaC proteins is associated with Liddle's Syndrome, an autosomal-dominant form of hypertension (5). In addition to targeting sodium channels, NEDD4L has also been shown to negatively regulate TGF-β signaling by targeting Smad2 for degradation (6). Mouse and human NEDD4 are rapidly cleaved by caspase proteins during apoptosis, although the significance of this cleavage is not clear (7).

**Specificity/Sensitivity:** The NEDD4 (C5F5) Rabbit mAb detects endogenous levels of total NEDD4. The antibody does not cross react with NEDD4L.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to human NEDD4 protein.



Western blot analysis of extracts from various cell lines using NEDD4 (C5F5) Rabbit mAb.

**Background References:**

- (1) Kumar, S. et al. (1992) *Biochem. Biophys. Res. Commun.* 185, 1155–61.
- (2) Harvey, K.F. and Kumar, S. (1999) *Trends Cell Biol.* 9, 166–9.
- (3) Dinudom, A. et al. (1998) *Proc. Natl. Acad. Sci. USA* 95, 7169–73.
- (4) Goulet, C.C. et al. (1998) *J. Biol. Chem.* 273, 30012–7.
- (5) Staub, O. et al. (1996) *EMBO J.* 15, 2371–80.
- (6) Kuratomi, G. et al. (2005) *Biochem J.* 386, 461–70.
- (7) Harvey, K.F. et al. (1998) *J. Biol. Chem.* 273, 13524–30.

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

\*Species cross-reactivity is determined by western blot.

\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.

**Recommended Antibody Dilutions:**

Western blotting 1:1000  
Immunoprecipitation 1:50

For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).

Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.

**IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.**

**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine  
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.

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