

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

#3607 Store at -20C

NEDD4 (C5F5) Rabbit mAb

For Research Use Only. Not for Use in Diagnostic Procedures.

| | | | | | | |
|-------------------------------|----------------------------|-----------------------------------|-------------------------|--------------------------------------|-------------------------------|--------------------------------|
| Applications: W, IP | Reactivity: H Mk | Sensitivity: Endogenous | MW (kDa): 115 | Source/Isotype: Rabbit IgG | UniProt ID: #P46934 | Entrez-Gene Id: 4734 |
|-------------------------------|----------------------------|-----------------------------------|-------------------------|--------------------------------------|-------------------------------|--------------------------------|

Product Usage Information

Application

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:50

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.

Specificity/Sensitivity

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

Species predicted to react based on 100% sequence homology

Horse

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to human NEDD4 protein.

Background

Neural precursor expressed, developmentally down-regulated protein 4 (NEDD4) was originally identified as a gene that is highly expressed in the early mouse embryonic central nervous system (1). Subsequently, a family of NEDD4-like proteins have 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⁺ channels (NaVs) and epithelial Na⁺ channels (ENaCs) in response to increased intracellular Na⁺ 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. Research studies have shown that 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).

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.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **Mk:** Monkey

Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

U.S. Patent No. 7,429,487, foreign equivalents, and child patents deriving therefrom.

All other trademarks are the property of their respective owners. Visit cellsignal.com/trademarks for more information.

Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.