

Recombinant Rat NFIP1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52476

Size: 10ug, 100ug

Protein Name: NEDD4 family-interacting protein 1

Synonym: Ndfip1, N4wbp5

UniProt ID: Q5U2S1

UniProt Link: www.uniprot.org/uniprotkb/Q5U2S1/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 221 AA

Molecular Weight: 25 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MALALAALAAVEPACGTGYQQLQNEEPPGEREQTAGDAPPPYSSISAESAAYFDYKDESGFPKPPS
YNVATTLPSTYDEAERTKAEATIPLVGRDEDFVGRDDFDDADQLRIGNDGIFMLTFFMAFLFNWIGFF
LSFCLTTSAAGRYGAISGFGLSLIKWILIVRFSTYFPGYFDGQYWLWWVFLVLGFLFLRGFINYAKVR
KMPETFSNLPRTVLFIY

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions



Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant NEDD4 family-interacting protein 1 produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Activates HECT domain-containing E3 ubiquitin-protein ligases, including NEDD4 and ITCH, and consequently modulates the stability of their targets. As a result, controls many cellular processes. Prevents chronic T-helper cell-mediated inflammation by activating ITCH and thus controlling JUNB degradation. Promotes pancreatic beta cell death through degradation of JUNB and inhibition of the unfolded protein response, leading to reduction of insulin secretion. Restricts the production of pro-inflammatory cytokines in effector Th17 T-cells by promoting ITCH-mediated ubiquitination degradation of RORC. Together with NDFIP2, limits the cytokine signaling and expansion of effector Th2 T-cells by promoting degradation of JAK1, probably by ITCH- and NEDD4L-mediated ubiquitination. Regulates peripheral T-cell tolerance to self and foreign antigens, forcing the exit of naive CD4+ T-cells from the cell cycle before they become effector T-cells. Negatively regulates RLR-mediated antiviral response by promoting SMURF1-mediated ubiquitination and subsequent degradation of MAVS. Negatively regulates KCNH2 potassium channel activity by decreasing its cell-surface expression and interfering with channel maturation through recruitment of NEDD4L to the Golgi apparatus where it mediates KCNH2 degradation. In cortical neurons, mediates the ubiquitination of the divalent metal transporter SLC11A2/DMT1 by NEDD4L, leading to its down-regulation and protection of the cells from cobalt and iron toxicity. Important for normal development of dendrites and dendritic spines in cortex. Enhances the ubiquitination of BRAT1 mediated by: NEDD4, NEDD4L and ITCH and is required for the nuclear localization of ubiquitinated BRAT1. Enhances the ITCH-mediated ubiquitination of MAP3K7 by recruiting E2 ubiquitin-conjugating enzyme UBE2L3 to ITCH. Modulates EGFR signaling through multiple pathways. In particular, may regulate the ratio of AKT1-to-MAPK8 signaling in response to EGF, acting on AKT1 probably through PTEN destabilization and on MAPK8 through ITCH-dependent MAP2K4 inactivation. As a result, may control cell growth rate. Inhibits cell proliferation by promoting PTEN nuclear localization and changing its signaling specificity.

Subcellular Localization: Endosome membrane ; Multi-pass membrane protein . Golgi apparatus membrane . Synapse, synaptosome . Cell projection, dendrite . Secreted . Note=Detected in exosomes and secreted via the exosomal pathway.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.