

Recombinant Human RO52 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP50853

Size: 10ug, 100ug

Protein Name: E3 ubiquitin-protein ligase TRIM21 (EC 2.3.2.27) (52 kDa Ro protein) (52 kDa ribonucleoprotein autoantigen Ro/SS-A) (RING finger protein 81) (Ro(SS-A)) (Sjogren syndrome type A antigen) (SS-A) (Tripartite motif-containing protein 21)

Synonym: TRIM21, RNF81, RO52, SSA1

UniProt ID: P19474

UniProt Link: www.uniprot.org/uniprotkb/P19474/entry

Species Source: Human

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 475 AA

Molecular Weight: 54 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MASAARLTMMWEEVTCPICLDPFVEPVSIIECGHSFCQECISQVGKGGGSVCPVCRQRFLKLNLRPN
RQLANMVMNNLKEISQEAAREGTQGERCAVHGERLHLFCEKDGKALCWVCAQSRKHRDHAMVPLEEA
AQEYQEKLQVALGELRRKQELAEKLEVEIAIKRADWKKTVETQKSRIHAEFVQQKNFLVEEEQRQLQ
ELEKDEREQLRILGEKEAKLAQQSQALQELISELDRCHSSALELLQEVIIVLERSESWNLKDLDITSP
ELRSVCHVPGLKKMLRTCAVHITLDPDTANPWLILSEDRRQVRLGDTQQSIPGNEERFDSYPMVLGA
QHFHSGKHYYWEVDVTGKEAWDLGVCRDSVRRKGHFLSSKSGFWTIWLWNKQKYEAGTYPQTPL
HLQVPPCQVGIFLDYEAGMVSFYNITDHGSLIYSFSECAFTGPLRPFFSPGFNDGGKNTAPLTLCLN
IGSQGSTDY

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 E3 ubiquitin-protein ligase TRIM21 (EC 2.3.2.27) (52 kDa Ro protein) (52 kDa ribonucleoprotein autoantigen Ro/SS-A) (RING finger protein 81) (Ro(SS-A)) (Sjogren syndrome type A antigen) (SS-A) (Tripartite motif-containing protein 21) 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: E3 ubiquitin-protein ligase whose activity is dependent on E2 enzymes, UBE2D1, UBE2D2, UBE2E1 and UBE2E2 (PubMed:16297862, PubMed:16316627, PubMed:16472766, PubMed:16880511, PubMed:18022694, PubMed:18361920, PubMed:18641315, PubMed:18845142, PubMed:19675099, PubMed:26347139). Forms a ubiquitin ligase complex in cooperation with the E2 UBE2D2 that is used not only for the ubiquitination of USP4 and IKBKB but also for its self-ubiquitination (PubMed:16880511, PubMed:19675099). Component of cullin-RING-based SCF (SKP1-CUL1-F-box protein) E3 ubiquitin-protein ligase complexes such as SCF(SKP2)-like complexes (PubMed:16880511). A TRIM21-containing SCF(SKP2)-like complex is shown to mediate ubiquitination of CDKN1B ('Thr-187' phosphorylated-form), thereby promoting its degradation by the proteasome (PubMed:16880511). Monoubiquitinates IKBKB that will negatively regulate Tax-induced NF-kappa-B signaling (PubMed:19675099). Negatively regulates IFN-beta production post-pathogen recognition by catalyzing polyubiquitin-mediated degradation of IRF3 (PubMed:18641315). Mediates the ubiquitin-mediated proteasomal degradation of IgG1 heavy chain, which is linked to the VCP-mediated ER-associated degradation (ERAD) pathway (PubMed:18022694). Promotes IRF8 ubiquitination, which enhanced the ability of IRF8 to stimulate cytokine genes transcription in macrophages (By similarity). Plays a role in the regulation of the cell cycle progression (PubMed:16880511). Enhances the decapping activity of DCP2 (PubMed:18361920). Exists as a ribonucleoprotein particle present in all mammalian cells studied and composed of a single polypeptide and one of four small RNA molecules (PubMed:1985094, PubMed:8666824). At least two isoforms are present in nucleated and red blood cells, and tissue specific differences in RO/SSA proteins have been identified (PubMed:8666824). The common feature of these proteins is their ability to bind HY RNAs.2 (PubMed:8666824). Involved in the regulation of innate immunity and the inflammatory response in response to IFNG/IFN-gamma (PubMed:26347139). Organizes autophagic machinery by serving as a platform for the assembly of ULK1, Beclin 1/BECN1 and ATG8 family members and recognizes specific autophagy targets, thus coordinating target recognition with assembly of the autophagic apparatus and initiation of autophagy (PubMed:26347139). Also regulates autophagy through FIP200/RB1CC1 ubiquitination and subsequent decreased protein stability (PubMed:36359729). Represses the innate antiviral response by facilitating the formation of the NMI-IFI35 complex through 'Lys-63'-linked ubiquitination of NMI (PubMed:26342464). During viral infection, promotes cell pyroptosis by mediating 'Lys-6'-linked ubiquitination of ISG12a/IFI27, facilitating its translocation into the mitochondria and subsequent CASP3 activation (PubMed:36426955). When up-regulated through the IFN/JAK/STAT signaling pathway, promotes 'Lys-27'-linked ubiquitination of MAVS, leading to the recruitment of TBK1 and up-regulation of innate immunity (PubMed:29743353). Mediates 'Lys-63'-linked polyubiquitination of G3BP1 in response to heat shock, leading to stress granule disassembly (PubMed:36692217).

Subcellular Localization: Cytoplasm . Cytoplasmic vesicle, autophagosome . Nucleus . Cytoplasm, P-body . Cytoplasm, Stress granule . Note=Enters the nucleus upon exposure to nitric oxide (PubMed:18361920). Localizes to small dot- or rod-like structures in the cytoplasm, called processing bodies (P-bodies) that are located underneath the plasma membrane and also diffusely in the cytoplasm (PubMed:18361920). They are located along the microtubules and are highly motile in

cells (PubMed:18361920). Colocalizes with DCP2 in P-bodies (PubMed:18361920). Localizes to stress granules in response to oxidative stress (PubMed:36692217).

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.