

Recombinant Full Length Mouse Rc3h1 Protein, Myc/DDK-tagged

Cat. No. Rc3h1-5432M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Purified recombinant protein of mouse full-length RING CCCH (C3H) domains 1 (Rc3h1), with C-terminal MYC/DDK tag, expressed in HEK293T cells.
Species	Mouse
Source	HEK293
Description	Post-transcriptional repressor of mRNAs containing a conserved stem loop motif, called constitutive decay element (CDE), which is often located in the 3'-UTR, as in HMGXB3, ICOS, IER3, NFKBID, NFKBIZ, PPP1R10, TNF, TNFRSF4 and in many more mRNAs. Cleaves translationally inactive mRNAs harboring a stem-loop (SL), often located in their 3'-UTRs, during the early phase of inflammation in a helicase UPF1-independent manner. Binds to CDE and promotes mRNA deadenylation and degradation. This process does not involve miRNAs. In follicular helper T (Tfh) cells, represses of ICOS and TNFRSF4/Ox40 expression, thus preventing spontaneous Tfh cell differentiation, germinal center B-cell differentiation in the absence of immunization and autoimmunity. In resting or LPS-stimulated macrophages, controls inflammation by suppressing TNF expression. Also recognizes CDE in its own mRNA and in that of paralogous RC3H2, possibly leading to feedback loop regulation. Inhibits cooperatively with ZC3H12A the differentiation of helper T cells Th17 in lungs. They repress target mRNA encoding the Th17 cell-promoting factors IL6, ICOS, REL, IRF4, NFKBID and NFKBIZ. The cooperation requires RNA-binding by RC3H1 and the nuclease activity of ZC3H12A. Recognizes and binds mRNAs containing a

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hexaloop stem-loop motif, called alternative decay element (ADE). Together with ZC3H12A, destabilizes TNFRSF4/OX40 mRNA by binding to the conserved stem loop structure in its 3'UTR. Able to interact with double-stranded RNA. miRNA-binding protein that regulates microRNA homeostasis. Enhances DICER-mediated processing of pre-MIR146a but reduces mature MIR146a levels through an increase of 3' end uridylation. Both inhibits ICOS mRNA expression and they may act together to exert the suppression. Acts as a ubiquitin E3 ligase. Pairs with E2 enzymes UBE2A, UBE2B, UBE2D2, UBE2F, UBE2G1, UBE2G2 and UBE2L3 and produces polyubiquitin chains. Shows the strongest activity when paired with UBE2N:UBE2V1 or UBE2N:UBE2V2 E2 complexes and generate both short and long polyubiquitin chains.

Molecular Mass	125.4 kDa
Purity	> 80% as determined by SDS-PAGE and Coomassie blue staining
Stability	Stable for 12 months from the date of receipt of the product under proper storage and handling conditions. Avoid repeated freeze-thaw cycles.
Storage	Store at -80 centigrade after receiving vials.
Concentration	>50 µg/mL as determined by microplate BCA method
Storage Buffer	25 mM Tris.HCl, pH 7.3, 100 mM glycine, 10% glycerol.

GENE INFORMATION

Gene Name	Rc3h1 RING CCCH (C3H) domains 1 [<i>Mus musculus</i> (house mouse)]
Official Symbol	Rc3h1

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Synonyms	RC3H1; RING CCCH (C3H) domains 1; roquin; protein Sanroque; RING finger and C3H zinc finger protein 1; Gm551; N28103; mKIAA2025; 5730557L09Rik
Gene ID	381305
mRNA Refseq	NM_001024952
Protein Refseq	NP_001020123
UniProt ID	Q4VGL6

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