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ZC3H12A Recombinant Rabbit mAb

Catalog # AP99175

Product Information

Application	WB, IHC-P, IHC-F, IF, E
Primary Accession	Q5D1E8
Other Accession	Q5D1E8
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Recombinant
Calculated MW	65699
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the ZC3H12 family. Contains 1 C3H1-type zinc finger.
Background Descriptions	Has RNase activity and selectively degrades specific target mRNA species. Modulates the immune response and inflammation by regulating the decay of specific mRNA molecules. Recognizes the 3'-untranslated region (UTR) of the mRNA for IL6, CALCR and IL12B. Required for normal decay of IL6 mRNA (By similarity). Triggers apoptosis and promotes angiogenesis in response to the binding of CCL2 to CCR2. Regulates expression of CDH12 and CHD19.

Additional Information

Gene ID	80149
Other Names	MCPIP; MCPIP-1; MCPIP1; Reg1; dJ423B22.1; ZC12A_BOVIN; ZC3H12A; Zinc finger CCCH domain-containing protein 12A; 3.1.-.-; ZC12A_HUMAN; Monocyte chemotactic protein-induced protein 1 (MCP-induced protein 1 | MCPIP-1); Regnase-1 (Reg1); ZC12A_MOUSE; zinc finger CCCH-type containing 12A; MCP induced protein 1; Ribonuclease ZC3H12A (MCP-induced protein 1) (Zinc finger CCCH domain-containing protein 12A)
Dilution	IHC-P=1:50-200,IHC-F=1:50-200,WB=1:500-2000,IF=1:50-200,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	ZC3H12A (HGNC:26259)
Function	Endoribonuclease involved in various biological functions such as cellular

inflammatory response and immune homeostasis, glial differentiation of neuroprogenitor cells, cell death of cardiomyocytes, adipogenesis and angiogenesis. Functions as an endoribonuclease involved in mRNA decay (PubMed:19909337). Modulates the inflammatory response by promoting the degradation of a set of translationally active cytokine-induced inflammation-related mRNAs, such as IL6 and IL12B, during the early phase of inflammation (PubMed:26320658). Prevents aberrant T-cell-mediated immune reaction by degradation of multiple mRNAs controlling T-cell activation, such as those encoding cytokines (IL6 and IL2), cell surface receptors (ICOS, TNFRSF4 and TNFR2) and transcription factor (REL) (By similarity). 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 (By similarity). Together with RC3H1, destabilizes TNFRSF4/OX40 mRNA by binding to the conserved stem loop structure in its 3'UTR (By similarity). Self regulates by destabilizing its own mRNA (By similarity). Cleaves mRNA harboring a stem-loop (SL), often located in their 3'-UTRs, during the early phase of inflammation in a helicase UPF1-dependent manner (PubMed:19909337, PubMed:22561375, PubMed:26134560, PubMed:26320658). Plays a role in the inhibition of microRNAs (miRNAs) biogenesis (PubMed:22055188). Cleaves the terminal loop of a set of precursor miRNAs (pre-miRNAs) important for the regulation of the inflammatory response leading to their degradation, and thus preventing the biosynthesis of mature miRNAs (PubMed:22055188). Also plays a role in promoting angiogenesis in response to inflammatory cytokines by inhibiting the production of antiangiogenic microRNAs via its anti-dicer RNase activity (PubMed:24048733). Affects the overall ubiquitination of cellular proteins (By similarity). Positively regulates deubiquitinase activity promoting the cleavage at 'Lys-48'- and 'Lys-63'-linked polyubiquitin chains on TNF receptor-associated factors (TRAFs), preventing JNK and NF-kappa-B signaling pathway activation, and hence negatively regulating macrophage-mediated inflammatory response and immune homeostasis (By similarity). Also induces deubiquitination of the transcription factor HIF1A, probably leading to its stabilization and nuclear import, thereby positively regulating the expression of proangiogenic HIF1A-targeted genes (PubMed:24048733). Involved in a TANK-dependent negative feedback response to attenuate NF-kappaB activation through the deubiquitination of IKBKG or TRAF6 in response to interleukin-1-beta (IL1B) stimulation or upon DNA damage (PubMed:25861989). Prevents stress granule (SGs) formation and promotes macrophage apoptosis under stress conditions, including arsenite- induced oxidative stress, heat shock and energy deprivation (By similarity). Plays a role in the regulation of macrophage polarization; promotes IL4-induced polarization of macrophages M1 into anti- inflammatory M2 state (By similarity). May also act as a transcription factor that regulates the expression of multiple genes involved in inflammatory response, angiogenesis, adipogenesis and apoptosis (PubMed:16574901, PubMed:18364357). Functions as a positive regulator of glial differentiation of neuroprogenitor cells through an amyloid precursor protein (APP)-dependent signaling pathway (PubMed:19185603). Attenuates septic myocardial contractile dysfunction in response to lipopolysaccharide (LPS) by reducing I-kappa-B-kinase (IKK)-mediated NF-kappa-B activation, and hence myocardial pro-inflammatory cytokine production (By similarity).

Cellular Location

Nucleus. Cytoplasm. Cytoplasm, P-body. Rough endoplasmic reticulum membrane {ECO:0000250|UniProtKB:Q5D1E7}; Peripheral membrane protein {ECO:0000250|UniProtKB:Q5D1E7}; Cytoplasmic side {ECO:0000250|UniProtKB:Q5D1E7}. Cytoplasmic granule {ECO:0000250|UniProtKB:Q5D1E7}. Note=Predominantly localized in the cytoplasm. Colocalizes with GW182 on many granule-like structures, probably

	corresponding to cytoplasmic GW bodies (GWBs), also called processing bodies (P bodies). Colocalizes with calnexin on the surface of the rough endoplasmic reticulum (RER) membrane and with translationally active polysomes (By similarity). Colocalizes with ZC3H12D in cytoplasmic mRNA processing P-body, also known as GW bodies (GWBs) (PubMed:22055188, PubMed:26134560)
Tissue Location	Expressed in heart, placenta, spleen, kidney, liver and lung (PubMed:19909337). Expressed in leukocytes (PubMed:19909337) Expressed in monocyte (PubMed:16574901).

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