abcam

ab230502

Anti-MCPIP1 antibody

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.4 Preservative: 0.09% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Polyclonal
Immunogen	Synthetic Peptide within Human ZC3H12A aa 300-400 conjugated to Keyhole Limpet Haemocyanin. The exact immunogen used to generate this antibody is proprietary information. Database link Q5D1E8
Purification technique	Affinity purification Protein A
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/100
Notes	Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information ZC3H12A

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). (Microbial infection) Binds to Japanese encephalitis virus (JEV) and Dengue virus (DEN) RNAs. (Microbial infection) Exhibits antiviral activity against HIV-1 in lymphocytes by decreasing the abundance of HIV-1 viral RNA species.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The MCPIP1 (Monocyte Chemotactic Protein-Induced Protein 1) also known by the name Regnase-1 is a protein involved in RNA degradation and inflammation regulation. It acts as an RNase specifically targeting mRNAs for degradation

	impacting gene expression post-transcriptionally. The protein weighs around 66 kDa and shows expression in various tissues including heart spleen and macrophages. MCPIP1 also demonstrates notable expression in response to external stimuli like lipopolysaccharides.
Biological function summary	MCPIP1 modulates the immune response and inflammation by degrading mRNA of cytokines. Its action helps in controlling inflammation and immune response duration. MCPIP1 interacts with cellular complexes that manage mRNA stability including those involved in decay processes. This activity positions MCPIP1 as a regulator in the production of pro-inflammatory cytokines contributing to the cellular response to external pathogens.
Pathways	MCPIP1 functions within the inflammatory and immune signaling pathways. It is involved in the MAPK pathway which regulates gene expression in response to stress and cytokines. MCPIP1 also interacts with proteins such as TNF-alpha and IL-6 linking it to the inflammatory signaling cascade. These interactions highlight MCPIP1's role in mediating immune and inflammatory pathways contributing to maintaining cellular homeostasis.
Associated diseases and disorders	MCPIP1 connections relate to inflammatory diseases and autoimmune disorders. Aberrant expression or malfunction of MCPIP1 associates with pathological conditions including rheumatoid arthritis and systemic lupus erythematosus. The regulation of cytokines by MCPIP1 positions it centrally in these conditions as inappropriate levels of proteins like IL-6 and TNF-alpha contribute to disease progression. Consequently MCPIP1 serves as a potential therapeutic target in managing inflammation-driven diseases.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

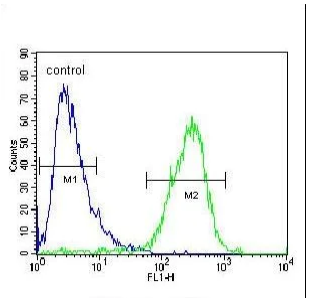
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
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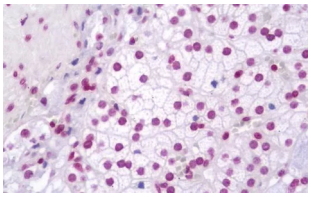
3 product images



Flow Cytometry (Intracellular) - Anti-MCPIP1 antibody (ab230502)

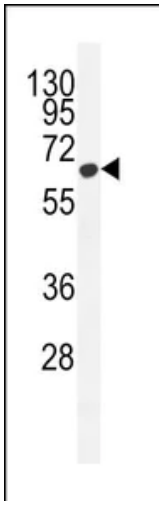
MCPIP1 Flow Cytometry (Intracellular) staining using rabbit Anti-MCPIP1 antibody

Intracellular flow cytometric analysis of HepG2 (human liver hepatocellular carcinoma cell line) cells labelling MCPIP1 using ab230502 at 1/10 dilution (green) compared to the control (blue). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MCPIP1 antibody (ab230502)

Formalin-fixed, paraffin-embedded human adrenal gland tissue stained for MCPIP1 using ab230502 at 1/100 dilution in immunohistochemical analysis.



Western blot - Anti-MCPIP1 antibody (ab230502)

All lanes:
Western blot - Anti-MCPIP1 antibody (ab230502) at 1/1000 dilution

All lanes:
HepG2 (human liver hepatocellular carcinoma cell line) whole cell lysate at 35 µg

Predicted band size: 65 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.