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SAMHD1 Antibody
Rabbit mAb
Catalog # AP91745

Specification

SAMHD1 Antibody - Product Information

Application	**WB, IHC, FC, ICC**
Primary Accession	Q9Y3Z3
Clonality	**Monoclonal**

Other Names
SAMHD1; AGS5; CHBL2; DCIP; HDDC1; MOP-5; MOP5; SBBI88; Mg11;

Isotype	**Rabbit IgG**
Host	**Rabbit**
Calculated MW	**72201 Da**

SAMHD1 Antibody - Additional Information

Dilution	**WB~~1:1000** **IHC~~1:100~500** **FC~~1:10~50** **ICC~~N/A**
Purification	**Affinity-chromatography**
Immunogen	**A synthesized peptide derived from human SAMHD1**
Description	**Putative nuclease involved in innate immune response by acting as a negative regulator of the cell-intrinsic antiviral response. May play a role in mediating proinflammatory responses to TNF-alpha signaling.**
Storage Condition and Buffer	**Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.**

SAMHD1 Antibody - Protein Information

Name SAMHD1 (HGNC:15925)

Function
Protein that acts both as a host restriction factor involved in defense response to virus and as a regulator of DNA end resection at stalled replication forks (PubMed:19525956, PubMed:21613998, PubMed:21720370, PubMed:22056990, PubMed:23601106, PubMed:<a

href="http://www.uniprot.org/citations/23602554" target="_blank">23602554, PubMed:24336198, PubMed:26294762, PubMed:26431200, PubMed:28229507, PubMed:28834754, PubMed:29670289). Has deoxynucleoside triphosphate (dNTPase) activity, which is required to restrict infection by viruses, such as HIV-1: dNTPase activity reduces cellular dNTP levels to levels too low for retroviral reverse transcription to occur, blocking early- stage virus replication in dendritic and other myeloid cells (PubMed:19525956, PubMed:21613998, PubMed:21720370, PubMed:22056990, PubMed:23364794, PubMed:23601106, PubMed:23602554, PubMed:24336198, PubMed:25038827, PubMed:26101257, PubMed:26294762, PubMed:26431200, PubMed:28229507). Likewise, suppresses LINE-1 retrotransposon activity (PubMed:24035396, PubMed:24217394, PubMed:29610582). Not able to restrict infection by HIV-2 virus; because restriction activity is counteracted by HIV-2 viral protein Vpx (PubMed:21613998, PubMed:21720370). In addition to virus restriction, dNTPase activity acts as a regulator of DNA precursor pools by regulating dNTP pools (PubMed:23858451). Phosphorylation at Thr-592 acts as a switch to control dNTPase-dependent and -independent functions: it inhibits dNTPase activity and ability to restrict infection by viruses, while it promotes DNA end resection at stalled replication forks (PubMed:23601106, PubMed:23602554, PubMed:29610582, PubMed:29670289). Functions during S phase at stalled DNA replication forks to promote the resection of gapped or reversed forks: acts by stimulating the exonuclease activity of MRE11, activating the ATR-CHK1 pathway and allowing the forks to restart replication (PubMed:29670289). Its ability to promote degradation of nascent DNA at stalled replication forks is required to prevent induction of type I interferons, thereby preventing chronic inflammation (PubMed:27477283, PubMed:29670289). Ability to promote DNA end resection at stalled replication forks is independent of dNTPase activity (PubMed:29670289). Enhances immunoglobulin hypermutation in B-lymphocytes by promoting transversion mutation (By similarity).

Cellular Location
Nucleus. Chromosome Note=Localizes to sites of DNA double-strand breaks in response to DNA damage.

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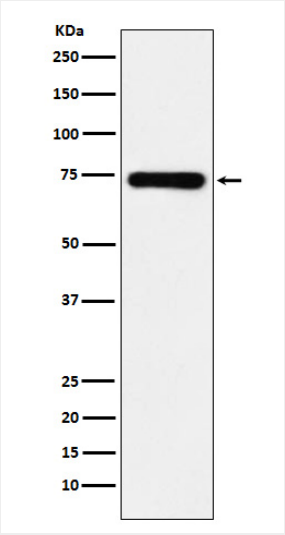
Tissue Location
Expressed in heart, skeletal muscle, spleen, liver, small intestine, placenta, lung and peripheral blood leukocytes (PubMed:11064105). No expression is seen in brain and thymus (PubMed:11064105).

SAMHD1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

SAMHD1 Antibody - Images



Western blot analysis of SAMHD1 expression in MCF7 cell lysate.