

Product Name: SAMHD1 (14G15) Rabbit Monoclonal Antibody
Catalog #: AMRe17591



Summary

Production Name	SAMHD1 (14G15) Rabbit Monoclonal Antibody
Description	Rabbit Monoclonal Antibody
Host	Rabbit
Application	WB,IHC-P,ICC/IF,FC,IF-P
Reactivity	Human

Performance

Conjugation	Unconjugated
Modification	Unmodified
Isotype	IgG
Clonality	Monoclonal
Form	Liquid
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles. Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% New type
Buffer	preservative N and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.
Purification	Affinity purification

Immunogen

Gene Name	SAMHD1
Alternative Names	SAMHD1; AGS5; CHBL2; DCIP; HDDC1; MOP-5; MOP5; SBBI88; Mg11;
Gene ID	25939.0
SwissProt ID	Q9Y3Z3.

Application

Dilution Ratio	WB 1:2000-1:20000, IHC-P/IF-P 1:100-1:200, ICC/IF 1:100-1:200, FCM 1:10-1:100
Molecular Weight	72kDa

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Background

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. 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: 23602554, PubMed: 23601106, PubMed: 22056990, 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: 23602554, PubMed: 23601106, PubMed: 23364794, PubMed: 25038827, PubMed: 26101257, PubMed: 22056990, PubMed: 24336198, PubMed: 28229507, PubMed: 26294762, PubMed: 26431200). Likewise, suppresses LINE-1 retrotransposon activity (PubMed: 24035396, PubMed: 29610582, PubMed: 24217394). Not able to restrict infection by HIV-2 virus; because restriction activity is counteracted by HIV-2 viral protein Vpx (PubMed: 24217394).

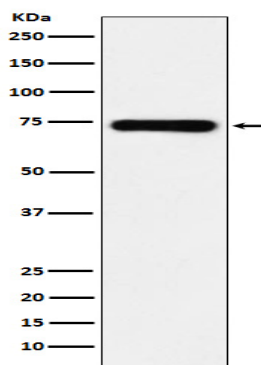
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<http://www.uniprot.org/citations/21613998> target="_blank">21613998, PubMed:21720370). In addition to virus restriction, dNTPase activity acts as a regulator of DNA precursor pools by regulating dNTP pools (PubMed:23858451). Phosphorylation at Thr-592 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:23602554, PubMed:23601106, 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).

Research Area

Image Data



Western blot analysis of SAMHD1 expression in MCF7 cell lysate.

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Note

For research use only.