

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



## Summary

<b>Production Name</b>	SAMHD1 (14G15) Rabbit Monoclonal Antibody
<b>Description</b>	Rabbit Monoclonal Antibody
<b>Host</b>	Rabbit
<b>Application</b>	WB,ELISA
<b>Reactivity</b>	Human

## Performance

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

## Immunogen

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

## Application

<b>Dilution Ratio</b>	WB 1:1000-1:5000
<b>Molecular Weight</b>	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](http://www.uniprot.org/citations/19525956), PubMed: [21613998](http://www.uniprot.org/citations/21613998), PubMed: [21720370](http://www.uniprot.org/citations/21720370), PubMed: [23602554](http://www.uniprot.org/citations/23602554), PubMed: [23601106](http://www.uniprot.org/citations/23601106), PubMed: [22056990](http://www.uniprot.org/citations/22056990), PubMed: [24336198](http://www.uniprot.org/citations/24336198), PubMed: [26294762](http://www.uniprot.org/citations/26294762), PubMed: [26431200](http://www.uniprot.org/citations/26431200), PubMed: [28229507](http://www.uniprot.org/citations/28229507), PubMed: [28834754](http://www.uniprot.org/citations/28834754), PubMed: [29670289](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/19525956), PubMed: [21613998](http://www.uniprot.org/citations/21613998), PubMed: [21720370](http://www.uniprot.org/citations/21720370), PubMed: [23602554](http://www.uniprot.org/citations/23602554), PubMed: [23601106](http://www.uniprot.org/citations/23601106), PubMed: [23364794](http://www.uniprot.org/citations/23364794), PubMed: [25038827](http://www.uniprot.org/citations/25038827), PubMed: [26101257](http://www.uniprot.org/citations/26101257), PubMed: [22056990](http://www.uniprot.org/citations/22056990), PubMed: [24336198](http://www.uniprot.org/citations/24336198), PubMed: [28229507](http://www.uniprot.org/citations/28229507), PubMed: [26294762](http://www.uniprot.org/citations/26294762), PubMed: [26431200](http://www.uniprot.org/citations/26431200)). Likewise, suppresses LINE-1 retrotransposon activity (PubMed: [24035396](http://www.uniprot.org/citations/24035396), PubMed: [29610582](http://www.uniprot.org/citations/29610582), PubMed: [24217394](http://www.uniprot.org/citations/24217394)). Not able to restrict infection by HIV-2 virus; because restriction activity is counteracted by HIV-2 viral protein Vpx (PubMed: [24217394](http://www.uniprot.org/citations/24217394)).

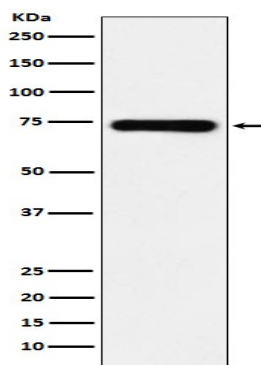
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<http://www.uniprot.org/citations/21613998> target="\_blank">21613998</a>, PubMed:<a href="http://www.uniprot.org/citations/21720370" target="\_blank">21720370</a>). In addition to virus restriction, dNTPase activity acts as a regulator of DNA precursor pools by regulating dNTP pools (PubMed:<a href="http://www.uniprot.org/citations/23858451" target="\_blank">23858451</a>). 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:<a href="http://www.uniprot.org/citations/23602554" target="\_blank">23602554</a>, PubMed:<a href="http://www.uniprot.org/citations/23601106" target="\_blank">23601106</a>, PubMed:<a href="http://www.uniprot.org/citations/29610582" target="\_blank">29610582</a>, PubMed:<a href="http://www.uniprot.org/citations/29670289" target="\_blank">29670289</a>). 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:<a href="http://www.uniprot.org/citations/29670289" target="\_blank">29670289</a>). 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:<a href="http://www.uniprot.org/citations/27477283" target="\_blank">27477283</a>, PubMed:<a href="http://www.uniprot.org/citations/29670289" target="\_blank">29670289</a>). Ability to promote DNA end resection at stalled replication forks is independent of dNTPase activity (PubMed:<a href="http://www.uniprot.org/citations/29670289" target="\_blank">29670289</a>). 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.