

**SAMHD1 Antibody**  
Rabbit mAb  
Catalog # AP91745

## Specification

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### SAMHD1 Antibody - Product Information

Application **WB, IHC, FC, ICC**  
Primary Accession [O9Y3Z3](#)  
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

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](http://www.uniprot.org/citations/19525956), PubMed: [21613998](http://www.uniprot.org/citations/21613998), PubMed: [21720370](http://www.uniprot.org/citations/21720370), PubMed: [22056990](http://www.uniprot.org/citations/22056990), PubMed: [23601106](http://www.uniprot.org/citations/23601106), PubMed: [23602554](http://www.uniprot.org/citations/23602554), 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: <a

<http://www.uniprot.org/citations/28229507> target="\_blank">28229507</a>, PubMed:<a href="http://www.uniprot.org/citations/28834754" target="\_blank">28834754</a>, PubMed:<a href="http://www.uniprot.org/citations/29670289" target="\_blank">29670289</a>). 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:<a href="http://www.uniprot.org/citations/19525956" target="\_blank">19525956</a>, PubMed:<a href="http://www.uniprot.org/citations/21613998" target="\_blank">21613998</a>, PubMed:<a href="http://www.uniprot.org/citations/21720370" target="\_blank">21720370</a>, PubMed:<a href="http://www.uniprot.org/citations/22056990" target="\_blank">22056990</a>, PubMed:<a href="http://www.uniprot.org/citations/23364794" target="\_blank">23364794</a>, PubMed:<a href="http://www.uniprot.org/citations/23601106" target="\_blank">23601106</a>, PubMed:<a href="http://www.uniprot.org/citations/23602554" target="\_blank">23602554</a>, PubMed:<a href="http://www.uniprot.org/citations/24336198" target="\_blank">24336198</a>, PubMed:<a href="http://www.uniprot.org/citations/25038827" target="\_blank">25038827</a>, PubMed:<a href="http://www.uniprot.org/citations/26101257" target="\_blank">26101257</a>, PubMed:<a href="http://www.uniprot.org/citations/26294762" target="\_blank">26294762</a>, PubMed:<a href="http://www.uniprot.org/citations/26431200" target="\_blank">26431200</a>, PubMed:<a href="http://www.uniprot.org/citations/28229507" target="\_blank">28229507</a>). Likewise, suppresses LINE-1 retrotransposon activity (PubMed:<a href="http://www.uniprot.org/citations/24035396" target="\_blank">24035396</a>, PubMed:<a href="http://www.uniprot.org/citations/24217394" target="\_blank">24217394</a>, PubMed:<a href="http://www.uniprot.org/citations/29610582" target="\_blank">29610582</a>). Not able to restrict infection by HIV-2 virus; because restriction activity is counteracted by HIV-2 viral protein Vpx (PubMed:<a href="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/23601106" target="\_blank">23601106</a>, PubMed:<a href="http://www.uniprot.org/citations/23602554" target="\_blank">23602554</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).

### Cellular Location

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

### Tissue Location

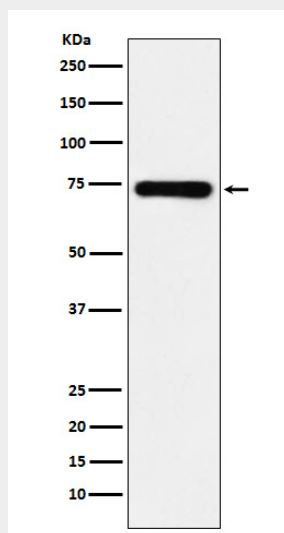
Expressed in heart, skeletal muscle, spleen, liver, small intestine, placenta, lung and peripheral blood leukocytes (PubMed:11064105). No expression is seen in brain and thymus (PubMed:11064105).

## 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 Cytometry](#)
- [Cell Culture](#)

## SAMHD1 Antibody - Images



Western blot analysis of SAMHD1 expression in MCF7 cell lysate.