

**Anti-SAMHD1 Monoclonal Antibody**  
Catalog # ABO14638**Specification****Anti-SAMHD1 Monoclonal Antibody - Product Information**

Application	WB, IHC, IF, ICC, FC
Primary Accession	<a href="#">Q9Y3Z3</a>
Host	Rabbit
Isotype	Rabbit IgG
Reactivity	Human
Clonality	Monoclonal
Format	Liquid

**Description**

Anti-SAMHD1 Monoclonal Antibody . Tested in WB, IHC, ICC/IF, Flow Cytometry applications. This antibody reacts with Human.

**Anti-SAMHD1 Monoclonal Antibody - Additional Information**

Gene ID 25939

**Other Names**

Deoxynucleoside triphosphate triphosphohydrolase SAMHD1, dNTPase, 3.1.5.-, Dendritic cell-derived IFNG-induced protein, DCIP, Monocyte protein 5 {ECO:0000303|Ref.2}, MOP-5 {ECO:0000303|Ref.2}, SAM domain and HD domain-containing protein 1, hSAMHD1, SAMHD1 (<a href="http://www.genenames.org/cgi-bin/gene\_symbol\_report?hgnc\_id=15925" target="\_blank">HGNC:15925</a>)

**Application Details**

WB 1:1000-1:5000<br>IHC 1:50-1:200<br>ICC/IF 1:50-1:200<br>FC 1:50

**Contents**

Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.

**Immunogen**

A synthesized peptide derived from human SAMHD1

**Purification**

Affinity-chromatography

**Storage**

**Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.**

**Anti-SAMHD1 Monoclonal 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:<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/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/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>, 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

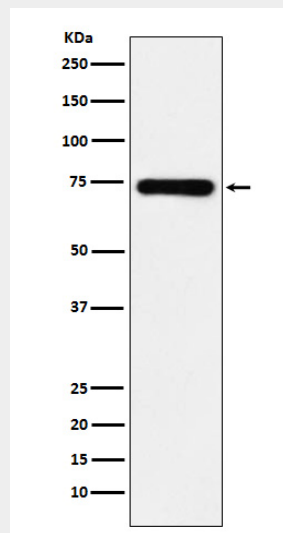
Expressed in heart, skeletal muscle, spleen, liver, small intestine, placenta, lung and peripheral blood leukocytes (PubMed:11064105). No expression is seen in brain and thymus (PubMed:11064105).

### Anti-SAMHD1 Monoclonal 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](#)

### Anti-SAMHD1 Monoclonal Antibody - Images



Western blot analysis of SAMHD1 expression in MCF7 cell lysate.