

**SAMHD1 Antibody (Center)**  
**Affinity Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AW5632**

**Specification**

---

**SAMHD1 Antibody (Center) - Product Information**

Application	WB,E
Primary Accession	<a href="#">O9Y3Z3</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	H=72,69,64,68 KDa
Isotype	Rabbit IgG
Antigen Source	HUMAN

**SAMHD1 Antibody (Center) - Additional Information**

**Gene ID** 25939

**Antigen Region**  
204-230

**Other Names**

Deoxynucleoside triphosphate triphosphohydrolase SAMHD1, dNTPase, 315-, Dendritic cell-derived IFNG-induced protein, DCIP, Monocyte protein 5, MOP-5, SAM domain and HD domain-containing protein 1, SAMHD1, MOP5

**Dilution**

WB~~0.25

**Target/Specificity**

This SAMHD1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 204-230 amino acids from the Central region of human SAMHD1.

**Storage**

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

SAMHD1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

**SAMHD1 Antibody (Center) - 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

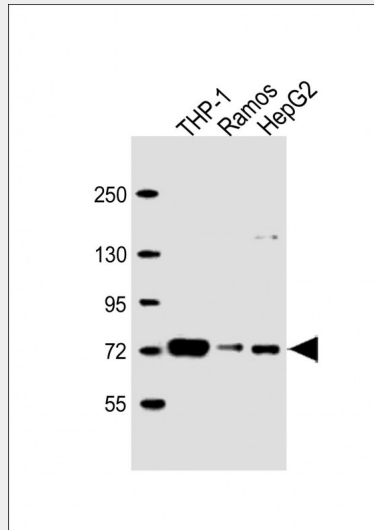
Expressed in heart, skeletal muscle, spleen, liver, small intestine, placenta, lung and peripheral blood leukocytes (PubMed:11064105). No expression is seen in brain and thymus (PubMed:11064105).

### SAMHD1 Antibody (Center) - 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 (Center) - Images



All lanes : Anti-SAMHD1 Antibody (Center) at 1:2000 dilution Lane 1: THP-1 whole cell lysate Lane 2: Ramos whole cell lysate Lane 3: HepG2 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 72 kDa Blocking/Dilution buffer: 5% NFD/MTBST.

### SAMHD1 Antibody (Center) - Background

This gene may play a role in regulation of the innate immune response. The encoded protein is upregulated in response to viral infection and may be involved in mediation of tumor necrosis factor-alpha proinflammatory responses. Mutations in this gene have

been associated with Aicardi-Goutieres syndrome. [provided by RefSeq].

#### **SAMHD1 Antibody (Center) - References**

Tomkova, H., et al. Eur J Dermatol 20(3):411-413(2010)  
Dale, R.C., et al. Am. J. Med. Genet. A 152A (4), 938-942 (2010) :  
Davila, S., et al. Genes Immun. 11(3):232-238(2010)  
Rice, G.I., et al. Nat. Genet. 41(7):829-832(2009)  
Liao, W., et al. Proteomics 8(13):2640-2650(2008)