

SAMHD1 Antibody (Center)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP17570c

Specification

SAMHD1 Antibody (Center) - Product Information

Application	WB,E
Primary Accession	O9Y3Z3
Other Accession	NP_056289.2
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	72201
Antigen Region	204-230

SAMHD1 Antibody (Center) - Additional Information

Gene ID 25939

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

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.

Dilution

WB~~1:1000

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

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:[19525956](#), PubMed:[21613998](#), PubMed:[21720370](#), PubMed:[22056990](#), PubMed:[23601106](#), PubMed:[23602554](#), 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:[22056990](#), PubMed:[23364794](#), PubMed:[23601106](#), PubMed:[23602554](#), PubMed:[24336198](#), PubMed:[25038827](#), PubMed:[26101257](#), PubMed:[26294762](#), PubMed:[26431200](#), PubMed:[28229507](#)). Likewise, suppresses LINE-1 retrotransposon activity (PubMed:[24035396](#), PubMed:[24217394](#), PubMed:[29610582](#)). Not able to restrict infection by HIV-2 virus; because restriction activity is counteracted by HIV-2 viral protein Vpx (PubMed:[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:[23601106](#), PubMed:[23602554](#), 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).

Cellular Location

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

Tissue Location

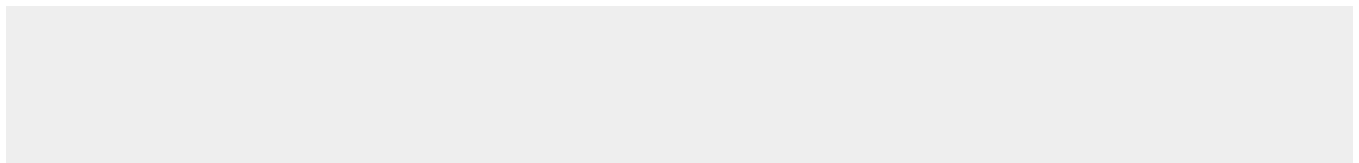
Expressed in heart, skeletal muscle, spleen, liver, small intestine, placenta, lung and peripheral blood leukocytes (PubMed:11064105). No expression is seen in brain and thymus (PubMed:11064105).

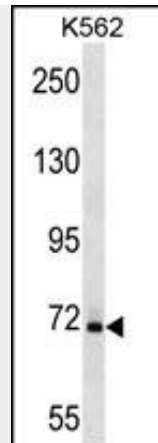
SAMHD1 Antibody (Center) - Protocols

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





SAMHD1 Antibody (Center) (Cat. #AP17570c) western blot analysis in K562 cell line lysates (35ug/lane). This demonstrates the SAMHD1 antibody detected the SAMHD1 protein (arrow).

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)