

SAMHD1 Polyclonal Antibody
Catalog # AP73674**Specification****SAMHD1 Polyclonal Antibody - Product Information**

Application	WB
Primary Accession	O9Y3Z3
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal

SAMHD1 Polyclonal Antibody - Additional Information

Gene ID 25939

Other Names

SAMHD1; MOP5; SAM domain and HD domain-containing protein 1; Dendritic cell-derived IFNG-induced protein; DCIP; Monocyte protein 5; MOP-5

Dilution

WB~~Western Blot: 1/500 - 1/2000. IHC-p: 1/100-1/300. ELISA: 1/20000. Not yet tested in other applications.

Format

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

Storage Conditions

-20°C

SAMHD1 Polyclonal Antibody - Protein InformationName 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:[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, 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

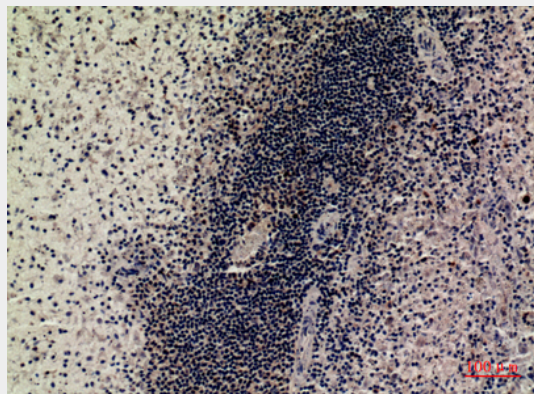
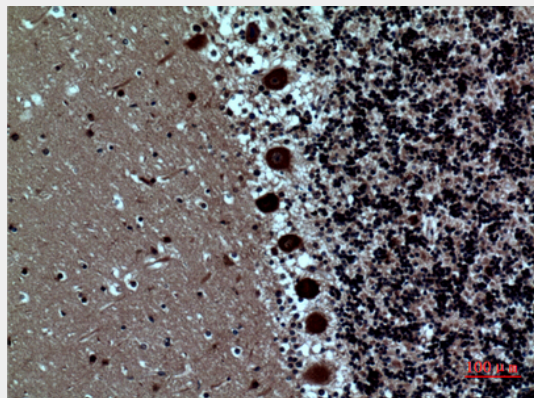
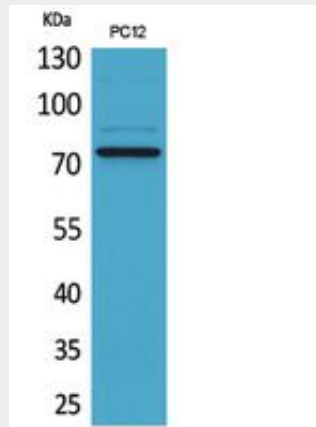
Expressed in heart, skeletal muscle, spleen, liver, small intestine, placenta, lung and peripheral blood leukocytes (PubMed:11064105). No expression is seen in brain and thymus (PubMed:11064105).

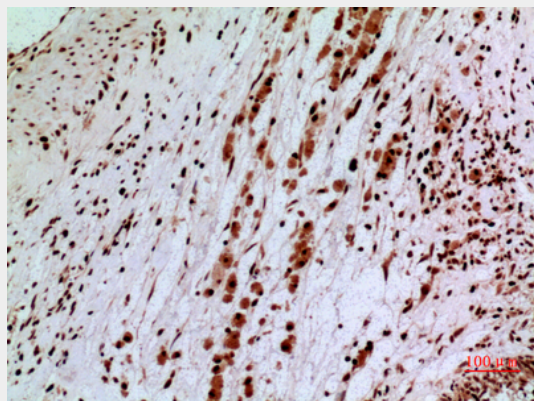
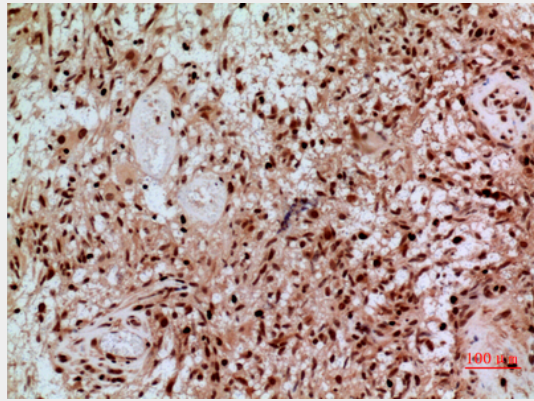
SAMHD1 Polyclonal Antibody - Protocols

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 Polyclonal Antibody - Images





SAMHD1 Polyclonal Antibody - Background

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