ARG42235
anti-SAMHD1 phospho (Thr592) antibody

Package: 50 µg
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes SAMHD1 phospho (Thr592)
Tested Reactivity	Hu, Ms
Tested Application	IHC-P, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	SAMHD1
Species	Human
Immunogen	An 18 amino acid phosphospecific peptide around Thr592 of Human SAMHD1.
Conjugation	Un-conjugated
Alternate Names	Deoxynucleoside triphosphate triphosphohydrolase SAMHD1; EC 3.1.5.-; SBBI88; SAM domain and HD domain-containing protein 1; HDDC1; MOP-5; DCIP; CHBL2; dNTPase; Dendritic cell-derived IFNG-induced protein; Monocyte protein 5

Application Instructions

Application table

Application	Dilution
IHC-P	2.5 - 20 µg/ml
WB	0.05 - 1 µg/ml

Application Note	* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.
Observed Size	~ 74 kDa

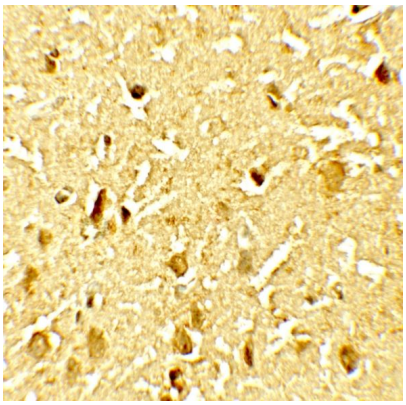
Properties

Form	Liquid
Purification	Affinity purification with immunogen.
Buffer	PBS and 0.02% Sodium azide.
Preservative	0.02% Sodium azide
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

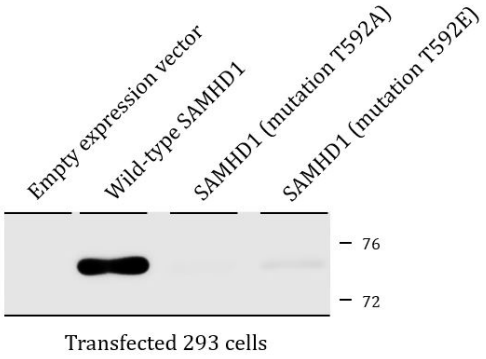
Gene Symbol	SAMHD1
Gene Full Name	SAM domain and HD domain 1
Background	This gene may play a role in regulation of the innate immune response. The encoded protein is upregulated in response to viral infection and may be involved in mediation of tumor necrosis factor-alpha proinflammatory responses. Mutations in this gene have been associated with Aicardi-Goutieres syndrome. [provided by RefSeq, Mar 2010]
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:23602554, PubMed:23601106, PubMed:22056990, 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:23602554, PubMed:23601106, PubMed:23364794, PubMed:25038827, PubMed:26101257, PubMed:22056990, PubMed:24336198, PubMed:28229507, PubMed:26294762, PubMed:26431200). Likewise, suppresses LINE-1 retrotransposon activity (PubMed:24035396, PubMed:29610582, PubMed:24217394). 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:23602554, PubMed:23601106, 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). [UniProt]
Calculated Mw	72 kDa
PTM	Ubiquitinated and targeted for proteasomal degradation by a DCX (DDB1-CUL4-X-box) E3 ubiquitin ligase with the help of the viral accessory protein Vpx. [UniProt]
Cellular Localization	Nucleus. [UniProt]

Images



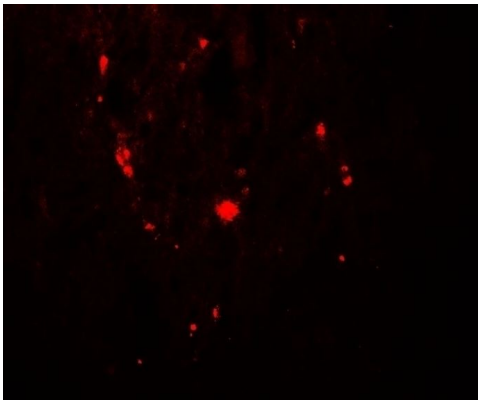
ARG42235 anti-SAMHD1 phospho (Thr592) antibody IHC-P image

Immunohistochemistry: Paraffin-embedded Human brain tissue. Tissue was fixed with formaldehyde and blocked with 10% serum for 1 hour at RT. Antigen Retrieval: Heat mediation was performed in Citrate buffer (pH 6.0). The tissue section was stained with ARG42235 anti-SAMHD1 phospho (Thr592) antibody at 2.5 µg/ml dilution, overnight at 4°C.



ARG42235 anti-SAMHD1 phospho (Thr592) antibody WB image

Western blot: 15 µg of 293 cell lysates stained with ARG42235 anti-SAMHD1 phospho (Thr592) antibody at 1 µg/ml dilution and incubated at RT for 1 hour, in 5% NFDM/TBST. 293 cells were transfected with empty expression vector, wild-type SAMHD1, SAMHD1 (mutation T592A) and SAMHD1 (mutation T592E) (left to right).



ARG42235 anti-SAMHD1 phospho (Thr592) antibody IHC-P image

Immunohistochemistry: 4% Paraformaldehyde-fixed Human brain tissue stained with ARG42235 anti-SAMHD1 phospho (Thr592) antibody (red) at 20 µg/ml dilution.