

Rabbit SAMHD1 Polyclonal Antibody | anti-SAMHD1 antibody

Phospho-SAMHD1 (Thr592) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA31278	Rabbit	Human, Mouse, Rat, Monkey	Western Blot, Immunohistochemistry, ELISA

PRODUCT SYNONYMS

SAMHD1; Polyclonal Antibody; Phospho-SAMHD1 (Thr592) Antibody; CHBL2; DCIP; Dendritic cell derived IFNG induced protein; Dendritic cell-derived IFNG-induced protein; Deoxynucleoside triphosphate triphosphohydrolase SAMHD1; dNTPase; HD domain containing 1; HDDC1; Mg11; Monocyte protein 5; MOP 5; MOP-5; MOP5; OTTHUMP00000030889; SAM domain and HD domain 1; SAM domain and HD domain containing protein 1; SAM domain and HD domain-containing protein 1; SAMH1_HUMAN; Samhd1; SBB188; anti-SAMHD1 antibody

PRODUCT SPECIFICATIONS

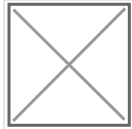
Host	Rabbit
Reactivity	Human, Mouse, Rat, Monkey
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Phospho-SAMHD1 (Thr592) Antibody detects endogenous levels of SAMHD1 only when phosphorylated at Thr592. Tissue Specificity: Expressed in heart, skeletal muscle, spleen, liver, small intestine, placenta, lung and peripheral blood leukocytes. No expression is seen in brain and thymus.
Purity/Purification	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho-peptide and non-phospho-peptide affinity columns.
Form/Format	Liquid. Rabbit IgG in phosphate buffered saline, pH7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Applicable Applications for anti-SAMHD1 antibody	WB (Western Blot), IHC (Immunohistochemistry), ELISA (Peptide ELISA)
Application Notes	IHC: 1:50-1:200 WB: 1:500-1:2000 Peptide ELISA: 1:20,000-1:40,000
Immunogen	A synthesized peptide derived from human SAMHD1 around the phosphorylation site of Thr592.
Conjugation	Unconjugated
Fragment	Fab fragment
Post Translational Modifications	Phosphorylation at Thr-592 by CDK1 acts as a switch to control deoxynucleoside triphosphate (dNTPase)-dependent and -independent functions. Phosphorylation at Thr-592 takes place in cycling cells: it reduces the stability of the homotetramer, impairing the dNTPase activity and subsequent ability to restrict infection by viruses. It also inhibits ability to suppress LINE-1 retrotransposon activity. In contrast, phosphorylation at Thr-592 promotes DNA end resection at stalled replication forks in response to DNA damage. (Microbial infection) Ubiquitinated following interaction with HIV-2 viral protein Vpx; Vpx promotes interaction and with a DCX (DDB1-CUL4-X-box) E3 ubiquitin ligase, leading to proteasomal degradation.
Subunit Structure	Homodimer; in absence of GTP and dNTP. Homotetramer; in GTP- and dNTP-bound form. Interacts with MRE11; leading to stimulate the exonuclease activity of MRE11. Interacts with RBBP8/CtIP. Interacts (via its C-terminus) with CD81. (Microbial infection) Interacts with HIV-2 viral protein Vpx; promoting interaction with a E3 ubiquitin-protein ligase complex containing DCAF1, leading to subsequent ubiquitination and degradation of SAMHD1.

Similarity	In human, and in contrast to mouse protein, the SAM domain is not required for deoxynucleoside triphosphate (dNTPase) activity and ability to restrict infection by viruses.Belongs to the SAMHD1 family.
Subcellular Location	Nucleus. Chromosome. Note: Localizes to sites of DNA double-strand breaks in response to DNA damage.
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



IHC (Immunohistochemistry)
At 1/100 staining Human mammary cancer by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemistry)
At 1/100 staining Human kidney cancer and adjacent normal tissues by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemistry)
At 1/100 staining Human ovarian cancer by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemistry)
At 1/100 staining Human ovarian cancer by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemistry)
At 1/100 staining Human mammary cancer by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemistry)
At 1/100 staining Mouse liver tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.

ADDITIONAL INFORMATION

Related Product Information for anti-SAMHD1 antibody	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. 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. Likewise, suppresses LINE-1 retrotransposon activity. Not able to restrict infection by HIV-2 virus; because restriction activity is counteracted by HIV-2 viral protein Vpx. In addition to virus restriction, dNTPase activity acts as a regulator of DNA precursor pools by regulating dNTP pools. 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. 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. 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. Ability to promote DNA end resection at stalled replication forks is independent of dNTPase activity. Enhances immunoglobulin hypermutation in B-lymphocytes by promoting transversion mutation (By similarity).
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NCBI AND UNIPROT INFORMATION

NCBI GI #	38016914
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NCBI GeneID	25939
NCBI Accession #	NP_056289
NCBI GenBank Nucleotide #	NM_015474.3
UniProt Accession #	Q9Y3Z3 ; Q5JXG8 ; Q8N491 ; Q9H004 ; Q9H005 ; Q9H3U9 ; B4E2A5 ; E1P5V2
Molecular Weight	Predicted: 65; 69 kDa Observed: 62 kDa
NCBI Official Full Name	deoxynucleoside triphosphate triphosphohydrolase SAMHD1
NCBI Official Synonym Full Names	SAM domain and HD domain 1
NCBI Official Symbol	SAMHD1
NCBI Official Synonym Symbols	DCIP; CHBL2; HDDC1; MOP-5; SBB188
NCBI Protein Information	deoxynucleoside triphosphate triphosphohydrolase SAMHD1; dNTPase; monocyte protein 5; dendritic cell-derived IFNG-induced protein; SAM domain and HD domain-containing protein 1
UniProt Protein Name	Deoxynucleoside triphosphate triphosphohydrolase SAMHD1
UniProt Gene Name	SAMHD1
UniProt Synonym Gene Names	MOP5; dNTPase; DCIP; MOP-5
UniProt Entry Name	SAMH1_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com

Online datasheet: <https://stage.aaabiotech.com/polyclonal/samhd1-antibody-western-blot-immunohistochemistry-peptide-elisa-elisa/31278>