

Datasheet for ABIN7545958
SAMHD1 Protein (AA 1-626) (His tag)



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Overview

Quantity:	1 mg
Target:	SAMHD1
Protein Characteristics:	AA 1-626
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This SAMHD1 protein is labelled with His tag.

Product Details

Purpose:	Custom-made recombinant SAMHD1 Protein expressed in mammalian cells.
Sequence:	<p>MQRADSEQPS KRPRCDDSPR TPSNTPSAEA DWSPGLELHP DYKTWGPEQV CSFLRRGGFE EPVLLKNIRE NEITGALLPC LDESRFENLG VSSLGERKKL LSYIQLVQI HVDTMKVIND PIHGHELHP LLVRIIDTPQ FQRLRYIKQL GGGYYVFGA SHNRFESLGV VGYLAGCLVH ALGEKQPELQ ISERDVLCVQ IAGLCHDLGH GPFSHMFDGR FIPLARPEVK WTHEQGSVMM FEHLINSNGI KPVMEQYGLI PEEDICFIKE QIVGPLESPV EDSLWPYKGR PENKSFLYEI VSNKRNGIDV DKWDYFARDC HHLGIQNNFD YKRFIKFARV CEVDNELRIC ARDKEVGNLY DMFHTRNSLH RRAYQHKGVN IIDTMITDAF LKADDYIEIT GAGGKKYRIS TAIDDMEAYT KLTDNIFLEI LYSTDPKPKD AREILKQIEY RNLFKYVGET QPTGQIKIKR EDYESLPKEV ASAKPKVLLD VKLKAEDFIV DVINMDYGMQ EKNPIDHVSF YCKTAPNRAI RITKNQVSQ LPEKFAEQLI RVYCKKVDRK SLYAARQYFV QWCADRNFTEK PQDGDVIAPL ITPQKKEWND STSVQNPTRL REASKSRVQL FKDDPM Sequence without tag. The proposed Purification-Tag is based on experiences with the expression system, a different complexity of the protein</p>

Product Details

could make another tag necessary. In case you have a special request, please contact us.

Specificity: If you are looking for a specific domain and are interested in a partial protein or a different isoform, please contact us regarding an individual offer.

Characteristics: **Key Benefits:**

- Made to order protein - from design to production - by highly experienced protein experts.
- Protein expressed in mammalian cells and purified in one-step affinity chromatography
- The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins.
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein.

If you are not interested in a full length protein, please contact us for individual protein fragments.

The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

Purity: > 90 % as determined by Bis-Tris PAGE, anti-tag ELISA, Western Blot and analytical SEC (HPLC)

Grade: custom-made

Target Details

Target: SAMHD1

Alternative Name: SAMHD1 ([SAMHD1 Products](#))

Background: Deoxynucleoside triphosphate triphosphohydrolase SAMHD1 (dNTPase) (EC 3.1.5.-) (Dendritic cell-derived IFNG-induced protein) (DCIP) (Monocyte protein 5) (MOP-5) (SAM domain and HD domain-containing protein 1) (hSAMHD1),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

Target Details

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). {ECO:0000250|UniProtKB:Q60710, ECO:0000269|PubMed:19525956, ECO:0000269|PubMed:21613998, ECO:0000269|PubMed:21720370, ECO:0000269|PubMed:22056990, ECO:0000269|PubMed:23364794, ECO:0000269|PubMed:23601106, ECO:0000269|PubMed:23602554, ECO:0000269|PubMed:23858451, ECO:0000269|PubMed:24035396, ECO:0000269|PubMed:24217394, ECO:0000269|PubMed:24336198, ECO:0000269|PubMed:25038827, ECO:0000269|PubMed:26101257, ECO:0000269|PubMed:26294762, ECO:0000269|PubMed:26431200, ECO:0000269|PubMed:27477283, ECO:0000269|PubMed:28229507, ECO:0000269|PubMed:28834754, ECO:0000269|PubMed:29610582, ECO:0000269|PubMed:29670289}.

Molecular Weight: 72.2 kDa

UniProt: [Q9Y3Z3](#)

Application Details

Application Notes: We expect the protein to work for functional studies. As the protein has not been tested for

Application Details

functional studies yet we cannot offer a guarantee though.

Restrictions: For Research Use only

Handling

Format: Liquid

Buffer: The buffer composition is at the discretion of the manufacturer.

Handling Advice: Avoid repeated freeze-thaw cycles.

Storage: -80 °C

Storage Comment: Store at -80°C.

Expiry Date: 12 months
