

Product datasheet

Anti-SAMHD1 antibody [OT11A1] ab128107

KO VALIDATED

[6 References](#) [17 Images](#)

Overview

Product name	Anti-SAMHD1 antibody [OT11A1]
Description	Mouse monoclonal [OT11A1] to SAMHD1
Host species	Mouse
Tested applications	Suitable for: WB, IHC-P, ICC/IF, Flow Cyt (Intra)
Species reactivity	Reacts with: Mouse, Rat, Dog, Human, African green monkey
Immunogen	Recombinant full length protein corresponding to Human SAMHD1 aa 1-626. Produced in HEK-293T cells (NP_056289). Sequence: MQRADSEQPSKRPRCDDSPRTPSNTPSAEADWSPGLEL HPDYKTWGPEQV CSFLRRGGFEFPVLLKNIRENEITGALLPCLDESRFENLGV SSLGERKKL LSYQRLVQIHVDTMKVINDPIHGHIHPLLVRIIDTPQFQRL RYKQL GGGYVFPGASHNRFEHSLGVGYLAGCLVHALGEKQPEL QISERDVLCVQ IAGLCHDLGHGPFSSHMFDRFIPLARPEVKWTHEQGSVM MFEHLINSNGI KPVMEQYGLIPEEDICFIKEQVGPLESPVEDSLWPYKGRP ENKSFLYEI VSNKRNIGIDVDKWDYFARDCHHLGIQNNFDYKRFKIFARV CEVDNELRIC ARDKEVGNLYDMFHTRNSLHRRAYQHKVGNIIDTMITDAFL KADDYIEIT GAGGKKYRISTAIDDMEAYTKLTDNIFLEILYSTDPKDKDAR EILKQIEY RNLFKYVGETQPTGQIKIKREDYESLPKEVASAKPKVLLDV KLKAEDFV DVINMDYGMQEKNPIDHVSFYCKTAPNRAIRITKNQVSQLL PEKFAEQLI RVYCKKVDRKSLYAARQYFVQWCADRNFNTPKQDGDVIAP LITPQKKEWND STSVQNPTRLREASKSRVQLFKDDPM

Database link: [Q9Y3Z3](#)

 [Run BLAST with](#)

 [Run BLAST with](#)

Positive control

WB: HEK-293T cell lysate transfected with pCMV6-ENTRY SAMHD1 cDNA; HAP1, K562, HepG2, HeLa, SVT2, A549, COS-7, Jurkat, MDCK, PC-12, and MCF7 cell extracts; Mouse spleen extract. IHC-P: Human kidney, kidney carcinoma, liver, ovary adenocarcinoma, pancreas, thyroid carcinoma, prostate carcinoma, bladder carcinoma and tonsil tissues. ICC/IF: COS-7 cells transiently transfected with pCMV6-ENTRY SAMHD1. Flow Cyt (Intra): HEK-293T cells transfected with pCMV6-ENTRY SAMHD1; HeLa and Jurkat cells.

General notes

The clone number has been updated from 1A1 to OT1A1, both clone numbers name the same antibody clone.

The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.

If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.30 Preservative: 0.02% Sodium azide Constituents: PBS, 1% BSA, 50% Glycerol
Purity	Affinity purified
Purification notes	Purified from cell culture supernatant.
Clonality	Monoclonal
Clone number	OT1A1
Isotype	IgG2b

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab128107 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		1/500 - 1/2000. Predicted molecular weight: 72 kDa.
IHC-P		1/150. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
ICC/IF		1/100.

Application	Abreviews	Notes
Flow Cyt (Intra)		1/100.

Target

Function

Putative nuclease involved in innate immune response by acting as a negative regulator of the cell-intrinsic antiviral response. May play a role in mediating proinflammatory responses to TNF- α signaling.

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.

Involvement in disease

Defects in SAMHD1 are the cause of Aicardi-Goutieres syndrome type 5 (AGS5) [MIM:612952]. A form of Aicardi-Goutieres syndrome, a genetically heterogeneous disease characterized by cerebral atrophy, leukoencephalopathy, intracranial calcifications, chronic cerebrospinal fluid (CSF) lymphocytosis, increased CSF alpha-interferon, and negative serologic investigations for common prenatal infection. Clinical features as thrombocytopenia, hepatosplenomegaly and elevated hepatic transaminases along with intermittent fever may erroneously suggest an infective process. Severe neurological dysfunctions manifest in infancy as progressive microcephaly, spasticity, dystonic posturing and profound psychomotor retardation. Death often occurs in early childhood.

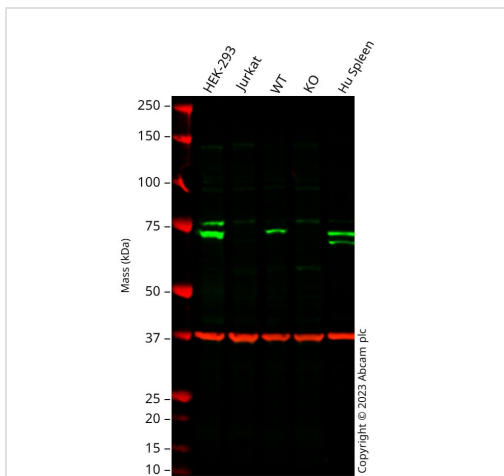
Sequence similarities

Belongs to the SAMHD1 family.
Contains 1 HD domain.
Contains 1 SAM (sterile alpha motif) domain.

Cellular localization

Nucleus.

Images



Western blot - Anti-SAMHD1 antibody [OT11A1] (ab128107)

All lanes : Anti-SAMHD1 antibody [OT11A1] (ab128107) at 1/500 dilution

Lane 1 : HEK-293 cell lysate

Lane 2 : Jurkat cell lysate

Lane 3 : Wild-type HAP1 cell lysate

Lane 4 : SAMHD1 knockout HAP1 cell lysate

Lane 5 : Human Spleen cell lysate

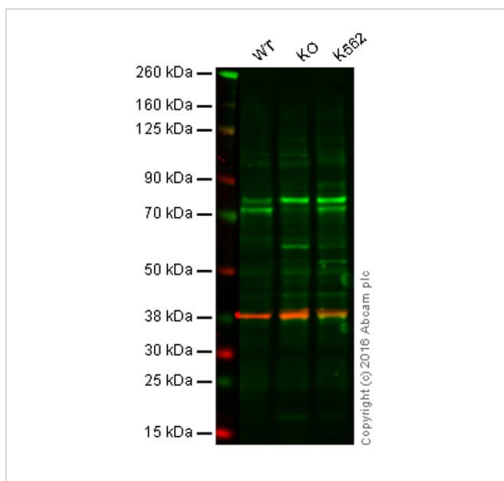
Lysates/proteins at 20 μ g per lane.

Performed under reducing conditions.

Predicted band size: 72 kDa

Observed band size: 73,75 kDa

Western blot: Anti-SAMHD1 antibody [OT11A1] (ab128107) staining at 1/500 dilution, shown in green; Rabbit Anti-GAPDH antibody [EPR16891] (**ab181602**) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab128107 was shown to bind specifically to SAMHD1. A band was observed at 73/75 kDa in wild-type HEK-293 cell lysates with no signal observed at this size in SAMHD1 knockout cell line. To generate this image, wild-type and SAMHD1 knockout HEK-293 cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in 3 % milk in TBS-0.1 % Tween[®] 20 (TBS-T) before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Mouse IgG H&L 800CW and Goat anti-Rabbit IgG H&L 680RD at 1/20000 dilution.



Western blot - Anti-SAMHD1 antibody [OT11A1] (ab128107)

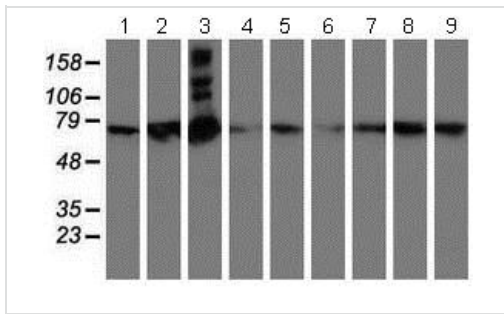
Lane 1: Wild-type HAP1 cell lysate (20 µg)

Lane 2: SAMHD1 knockout HAP1 cell lysate (20 µg)

Lane 3: K562 cell lysate (20 µg)

Lanes 1 - 3: Merged signal (red and green). Green - ab128107 observed at 70 kDa. Red - loading control, **ab181602**, observed at 37 kDa.

ab128107 was shown to recognize SAMHD1 when SAMHD1 knockout samples were used, along with additional cross-reactive bands. Wild-type and SAMHD1 knockout samples were subjected to SDS-PAGE. ab128107 and **ab181602** (loading control to GAPDH) were diluted 1/500 and 1/10 000 and incubated overnight at 4°C. Blots were developed with Goat anti-Mouse IgG H&L (IRDye[®] 800CW) preadsorbed (**ab216772**) and Goat Anti-Rabbit IgG H&L (IRDye[®] 680RD) preadsorbed (**ab216777**) secondary antibodies at 1/10 000 dilution for 1 h at room temperature before imaging.



Western blot - Anti-SAMHD1 antibody [OT11A1] (ab128107)

All lanes : Anti-SAMHD1 antibody [OT11A1] (ab128107) at 1/500 dilution

Lane 1 : HepG2 (human liver hepatocellular carcinoma cell line) cell extract

Lane 2 : HeLa (human epithelial cell line from cervix adenocarcinoma) cell extract

Lane 3 : SVT2 cell extract

Lane 4 : A549 (human lung carcinoma cell line) cell extract

Lane 5 : COS-7 (african green monkey kidney fibroblast-like cell line) cell extract

Lane 6 : Jurkat (human T cell leukemia cell line from peripheral blood) cell extract

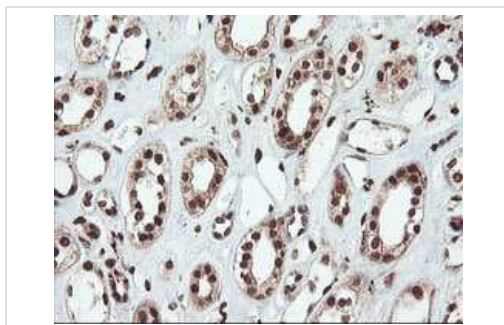
Lane 7 : MDCK (Canine kidney cell line) cell extract

Lane 8 : PC-12 (Rat adrenal gland pheochromocytoma cell line) cell extract

Lane 9 : MCF7 (Human breast adenocarcinoma cell line) cell extract

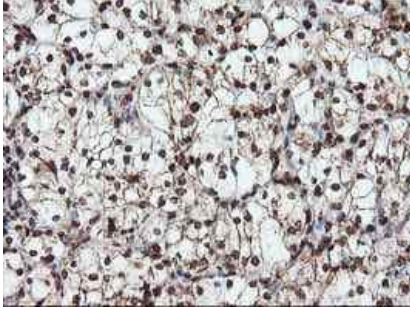
Lysates/proteins at 35 µg per lane.

Predicted band size: 72 kDa



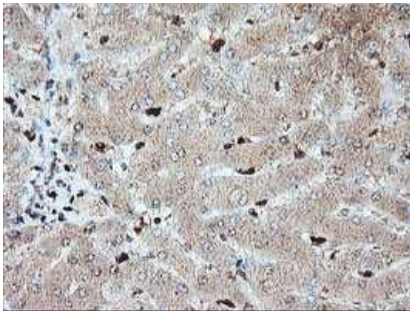
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SAMHD1 antibody [OT11A1] (ab128107)

Paraffin-embedded human kidney tissue stained for SAMHD1 using ab128107 at 1/150 dilution in immunohistochemical analysis.



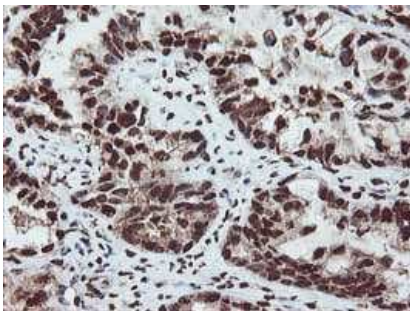
Paraffin-embedded human kidney carcinoma tissue stained for SAMHD1 using ab128107 at 1/150 dilution in immunohistochemical analysis.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SAMHD1 antibody [OT11A1] (ab128107)



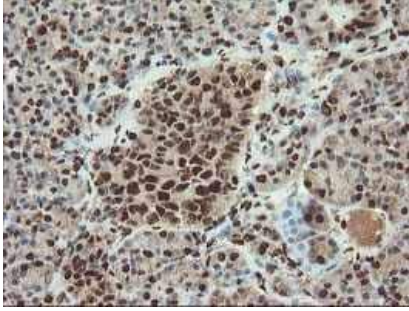
Paraffin-embedded human liver tissue stained for SAMHD1 using ab128107 at 1/150 dilution in immunohistochemical analysis.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SAMHD1 antibody [OT11A1] (ab128107)



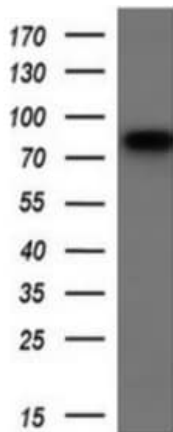
Paraffin-embedded human ovary adenocarcinoma tissue stained for SAMHD1 using ab128107 at 1/150 dilution in immunohistochemical analysis.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SAMHD1 antibody [OT11A1] (ab128107)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SAMHD1 antibody [OT11A1] (ab128107)

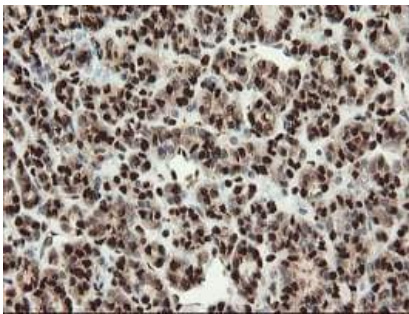
Paraffin-embedded human pancreas tissue stained for SAMHD1 using ab128107 at 1/150 dilution in immunohistochemical analysis.



Western blot - Anti-SAMHD1 antibody [OT11A1] (ab128107)

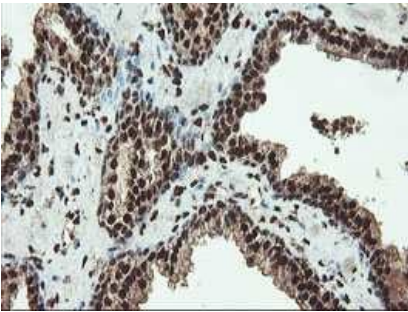
Anti-SAMHD1 antibody [OT11A1] (ab128107) at 1/200 dilution + Mouse spleen extract at 10 µg

Predicted band size: 72 kDa



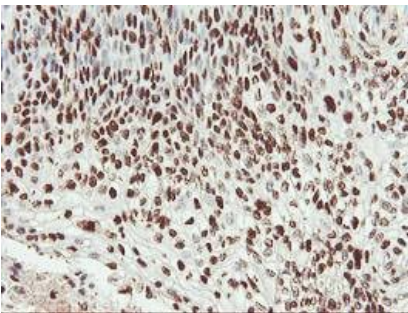
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SAMHD1 antibody [OT11A1] (ab128107)

Paraffin-embedded human thyroid carcinoma tissue stained for SAMHD1 using ab128107 at 1/150 dilution in immunohistochemical analysis.



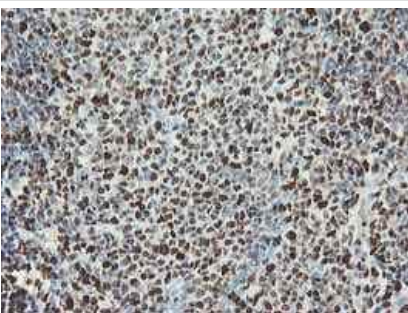
Paraffin-embedded human prostate carcinoma tissue stained for SAMHD1 using ab128107 at 1/150 dilution in immunohistochemical analysis.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SAMHD1 antibody [OT11A1] (ab128107)



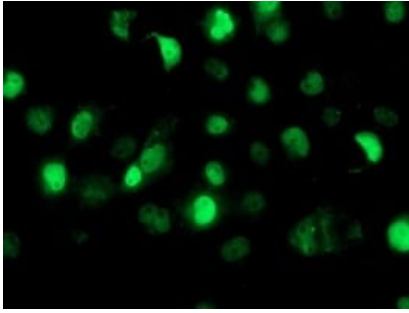
Paraffin-embedded human bladder carcinoma tissue stained for SAMHD1 using ab128107 at 1/150 dilution in immunohistochemical analysis.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SAMHD1 antibody [OT11A1] (ab128107)



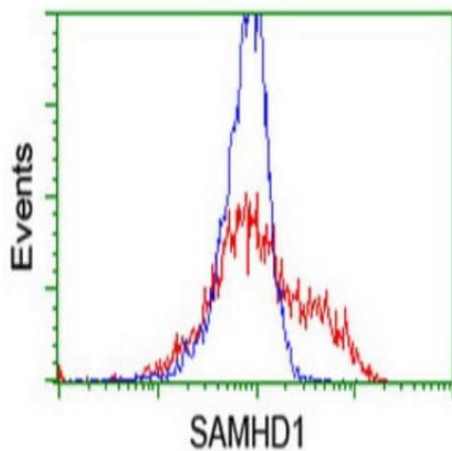
Paraffin-embedded human tonsil tissue stained for SAMHD1 using ab128107 at 1/150 dilution in immunohistochemical analysis.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SAMHD1 antibody [OT11A1] (ab128107)



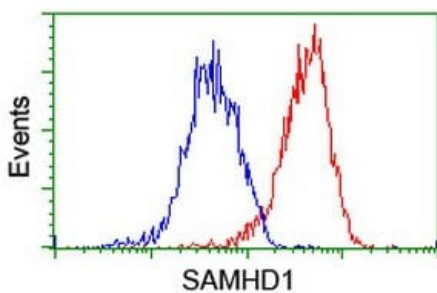
Immunocytochemistry/ Immunofluorescence - Anti-SAMHD1 antibody [OT11A1] (ab128107)

COS-7 (african green monkey kidney fibroblast-like cell line) cells transiently transfected with pCMV6-ENTRY SAMHD1 cDNA stained for SAMHD1 using ab128107 at 1/100 dilution in ICC/IF.



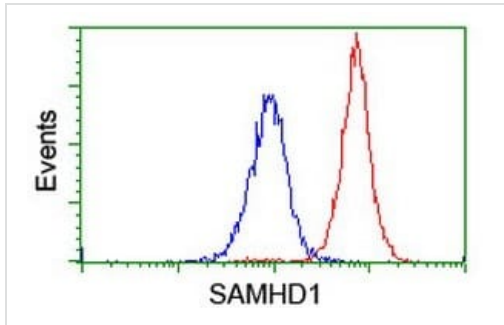
Flow Cytometry (Intracellular) - Anti-SAMHD1 antibody [OT11A1] (ab128107)

Flow cytometric analysis of HEK-293T (human epithelial cell line from embryonic kidney transformed with large T antigen) cells transfected with either pCMV6-ENTRY SAMHD1 overexpress plasmid (Red) or empty vector control plasmid (Blue) stained for SAMHD1 using ab128107 at 1/100 dilution.



Flow Cytometry (Intracellular) - Anti-SAMHD1 antibody [OT11A1] (ab128107)

Flow cytometric analysis of HeLa (human epithelial cell line from cervix adenocarcinoma) cells stained for SAMHD1 using ab128107 at 1/100 dilution (Red) compared to a nonspecific negative control (Blue).



Flow cytometric analysis of Jurkat (human T cell leukemia cell line from peripheral blood) cells stained for SAMHD1 using ab128107 at 1/100 dilution (Red) compared to a nonspecific negative control (Blue).

Flow Cytometry (Intracellular) - Anti-SAMHD1 antibody [OT11A1] (ab128107)

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