

Product datasheet

Anti-SAMHD1 antibody [OT11F9] ab117908

KO **VALIDATED**

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Overview

Product name	Anti-SAMHD1 antibody [OT11F9]
Description	Mouse monoclonal [OT11F9] to SAMHD1
Host species	Mouse
Tested applications	Suitable for: IHC-P, WB, Flow Cyt (Intra)
Species reactivity	Reacts with: Mouse, Human
Immunogen	Recombinant full length protein corresponding to Human SAMHD1 aa 1 to the C-terminus. Produced in HEK-293T cells (NP_056289). Database link: Q9Y3Z3 Run BLAST with Run BLAST with
Positive control	WB: HEK-293T cells transfected with pCMV6-ENTRY SAMHD1 cDNA; HAP1 and K562 cell lysates; HepG2, HeLa, SVT2, Jurkat and MCF7 cell extracts; Mouse brain extract. Flow Cyt (Intra): HeLa cells. IHC-P: Human spleen tissue.
General notes	Clone OT11F9 (formerly 1F9). 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	OT11F9
Isotype	IgG1

Applications

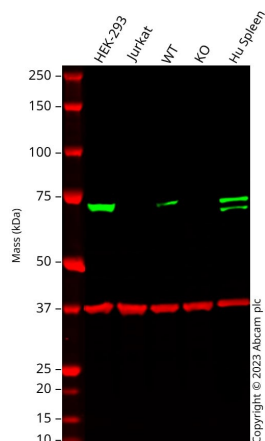
The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab117908 in the following tested applications. The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC-P		Use a concentration of 5 µg/ml.
WB		1/2000. Predicted molecular weight: 72 kDa.
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 [OT11F9] (ab117908)

All lanes : Anti-SAMHD1 antibody [OT11F9] (ab117908) at 1/2000 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

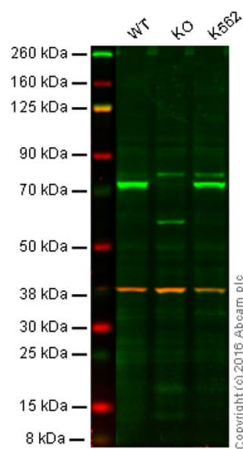
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 72 kDa

Observed band size: 73 kDa

Western blot: Anti-SAMHD1 antibody [OT11F9] (ab117908) staining at 1/2000 dilution, shown in green; Rabbit Anti-GAPDH antibody [EPR16891] (**ab181602**) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab117908 was shown to bind specifically to SAMHD1. A band was observed at 73 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.



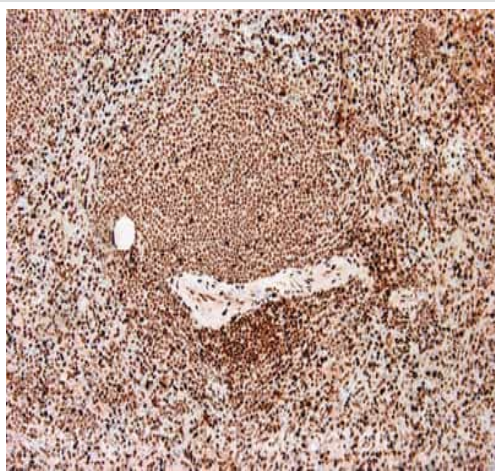
Western blot - Anti-SAMHD1 antibody [OT11F9] (ab117908)

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)

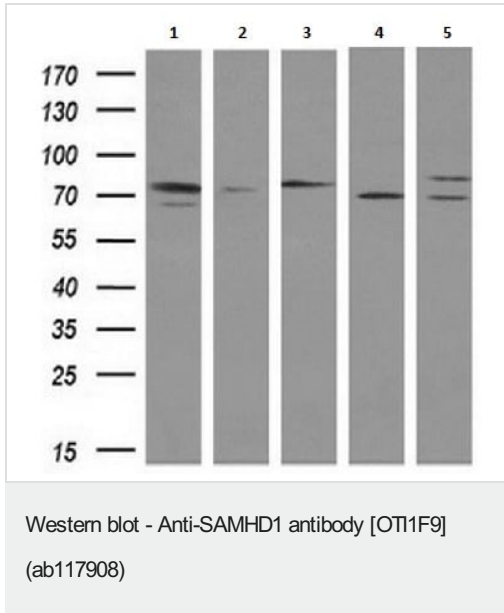
Lanes 1 - 3: Merged signal (red and green). Green - ab117908 observed at 70 kDa. Red - loading control, **ab181602**, observed at 37 kDa. ab117908 was shown to recognize SAMHD1 when SAMHD1 knockout samples were used, along with additional cross-reactive bands. Wild-type and SAMHD1 knockout samples were subjected to SDS-PAGE. ab117908 and **ab181602** (loading control to GAPDH) were diluted 1/2000 and 1/10000 respectively 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 1/10000 dilution for 1 h at room temperature before imaging.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-SAMHD1 antibody [OT11F9] (ab117908)

IHC image of SAMHD1 staining in Human normal spleen formalin fixed paraffin embedded tissue section, performed on a Leica Bond™ system using the standard protocol F. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH6, epitope retrieval solution 1) for 20 mins. The section was then incubated with ab117908, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



All lanes : Anti-SAMHD1 antibody [OT11F9] (ab117908) at 1/200 dilution

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

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

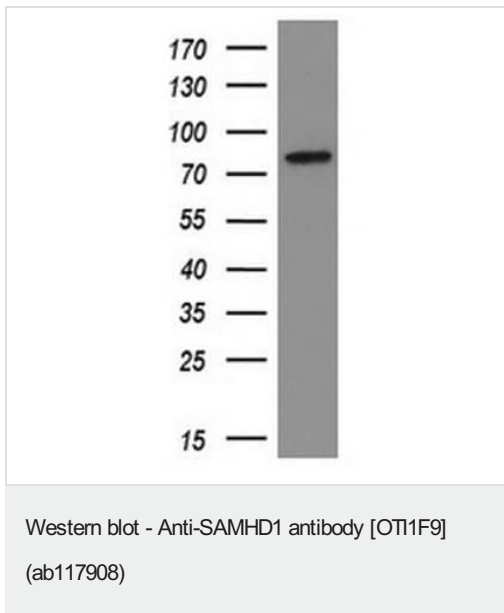
Lane 3 : SVT2 cell extract

Lane 4 : Jurkat (human T cell leukemia cell line from peripheral blood) cell extract

Lane 5 : MCF7 (human breast adenocarcinoma cell line) cell extract

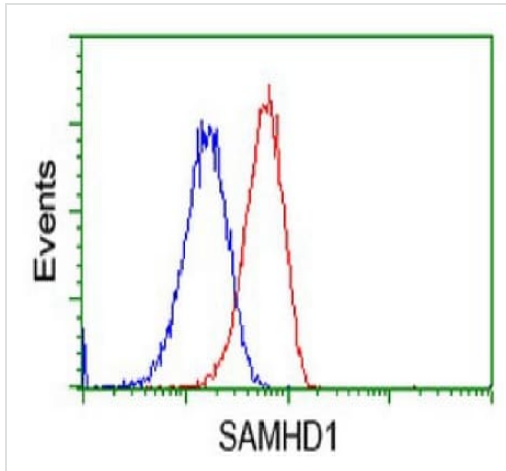
Lysates/proteins at 10 µg per lane.

Predicted band size: 72 kDa



Anti-SAMHD1 antibody [OT11F9] (ab117908) at 1/200 dilution + Mouse brain extract at 10 µg

Predicted band size: 72 kDa



Flow cytometric analysis of HeLa (human epithelial cell line from cervix adenocarcinoma) cells stained for SAMHD1 using ab117908 (red) at 1/100 dilution, compared to a nonspecific negative control (blue).

Flow Cytometry (Intracellular) - Anti-SAMHD1 antibody [OT11F9] (ab117908)

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