BOSTER BIOLOGICAL TECHNOLOGY
3942 B Valley Ave, Pleasanton, CA 94566
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Anti-SAMHD1 Antibody

Catalog Number: A00592-1

About SAMHD1

The SAM domain and HD domain 1 (SAMHD1) protein is upregulated in response to viral infection and is thought to play a role in innate immunity (1). SAMHD1 blocks the infection of HIV-1 and SIVdeltaVpx before reverse transcription in macrophages and dendritic cells (2), and this restriction is regulated by phosphorylation of SAMHD1 (3). Mutations in this gene have been associated with Aicardi-Goutieres syndrome (1).

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Overview

Product Name	Anti-SAMHD1 Antibody
Reactive Species	Human, Mouse
Description	Boster Bio Anti-SAMHD1 Antibody (Catalog # A00592-1). Tested in ELISA, WB, IHC, IF applications. This antibody reacts with Human, Mouse.
Application	ELISA, IF, IHC, WB
Clonality	Polyclonal
Formulation	SAMHD1 antibody is supplied in PBS containing ≤0.09% sodium azide.
Storage Instructions	SAMHD1 antibody can be stored at 4°C, stable for up to one year.
Host	Rabbit
Uniprot ID	Q9Y3Z3

Technical Details

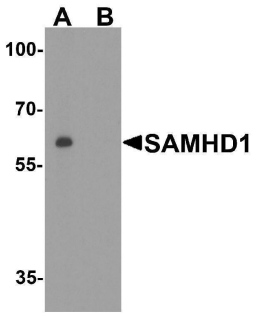
Immunogen	Anti-SAMHD1 antibody was raised against a peptide corresponding to 18 amino acids near the carboxy terminus of human SAMHD1.
Predicted Reactive Species	Mouse
Cross Reactivity	SAMHD1 antibody is human and mouse reactive.
Isotype	IgG

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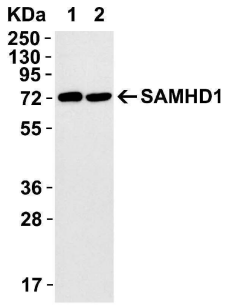
Form	Liquid
Concentration	1 mg/mL
Purification	SAMHD1 antibody is affinity chromatography purified via peptide column.
Suggested Dilutions	WB: 1 ug/mL; IHC: 5 ug/mL; IF: 20 ug/mL. Antibody validated: Western Blot, Immunohistochemistry, Immunofluorescence in human samples. All other applications and species not yet tested. Optimal dilutions for each application should be determined by the researcher.

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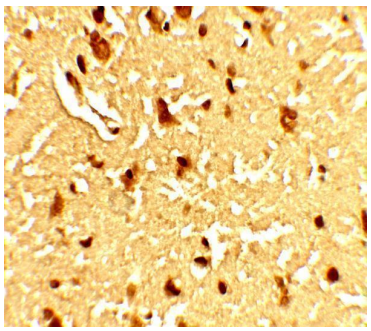
Anti-SAMHD1 Antibody (A00592-1) Images



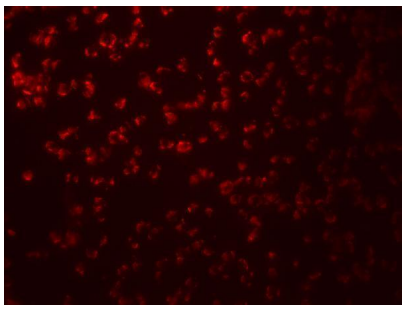
Western Blot Validation in Human Daudi Cell Lines Loading: 15 ug of lysates per lane. Antibodies: SAMHD1 A00592-1, 1 ug/mL, in (A: the absence and B: the presence of blocking peptide), (1h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution.



Overexpression Validation in 293T Transfected Cells Loading: 15 ug of lysates per lane. Antibodies: SAMHD1 A00592-1 (0.1 ug/mL), (1h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution. 293 cells were transfected with (1) wild-type SAMHD1 or (2) SAMHD1 (mutation T592A).



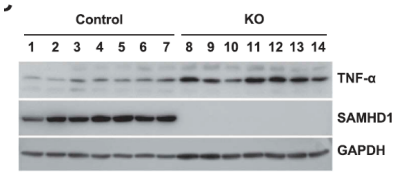
Immunohistochemistry Validation of SAMHD1 in Human Brain Tissue Immunohistochemical analysis of paraffin-embedded Human Brain Tissue using anti- SAMHD1 antibody (A00592-1) at 5 ug/ml. Tissue was fixed with formaldehyde and blocked with 10% serum for 1 h at RT; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody overnight at 4 ˚C. A goat anti-rabbit IgG H&L (HRP) at 1/250 was used as secondary. Counter stained with Hematoxylin.

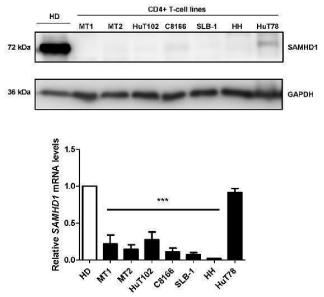


Immunofluorescence Validation of SAMHD1 in Human Daudi cells Immunofluorescent analysis of 4% paraformaldehyde-fixed Human Daudi Cells labeling SAMHD1 with A00592-1 at 20 ug/mL, followed by goat anti-rabbit IgG secondary antibody at 1/500 dilution (red).

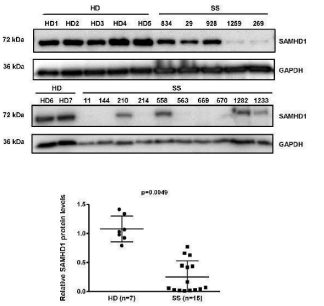
KO Validation of SAMHD1 in xenograft mice (Kodigepalli et al., 2018) THP-1 control and SAMHD1 KO (THP-1/KO) cells were injected into NSG (non-obese diabetic/severe combined immune deficient-gamma) mice. Protein expression levels of SAMHD1 were examined by Western blot with anti-SAMHD1 antibodies (A00592-1) and SAMHD1 was not detected in THP-1/KO cells.

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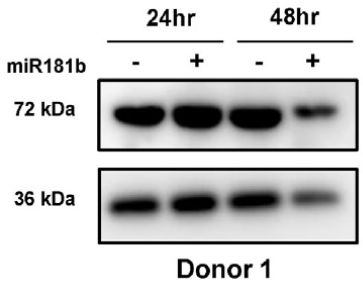




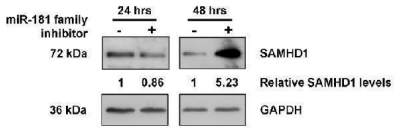
Overexpression Validation of SAMHD1 in CD4+ T-cells from a healthy donor and transformed CD4+ T-cell lines (Kohnken et al., 2017) MT1, MT2, SLB-1, and C8166 were from leukemia patients and HH, HuT78, and HuT102 were from cutaneous T-cell lymphoma (CTCL) patients. SAMHD1 protein expression detected by anti-SAMHD1 antibodies (A00592-1) was significantly increased in normal CD4+ T-cells as compared to leukemia- and CTCL- derived CD4+ T-cell lines. This blot is representative from four independent experiments with four healthy donors.



Overexpression of SAMHD1 in CD4+ T-cells from Healthy Donors and Sézary Syndrome (SS) patients (Kohnken et al., 2017) SAMHD1 protein expression detected by anti-SAMHD1 antibodies (A00592-1) was significantly reduced in CD+ T-cells from 15 SS patients as compared to those from 7 healthy donors.



Regulated Expression Validation of SAMHD1 in CD4+ T-cells from a healthy donor (Kohnken et al., 2017) SAMHD1 protein expression detected by anti-SAMHD1 antibodies (A00592-1) was significantly decreased by about 40% relative to control cells at 48hr post-nucleofection with miR-181b.



Regulated Expression Validation of SAMHD1 in MT2 CD4+ T-cells from leukemia patients (Kohnken et al., 2017) SAMHD1 protein expression detected by anti-SAMHD1 antibodies (A00592-1) was significantly increased by 5-fold at 48hr post-nucleofection with miR-181family inhibitor treatment.

Anti-SAMHD1 Antibody

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