

Anti-SAMHD1 (phospho Thr592) Antibody

Catalog Number: A00592T592

About SAMHD1 (PHOSPHO THR592)

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).

Overview

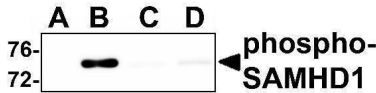
Product Name	Anti-SAMHD1 (phospho Thr592) Antibody
Reactive Species	Human, Mouse
Description	Boster Bio Anti-SAMHD1 (phospho Thr592) Antibody (Catalog # A00592T592). Tested in ELISA, WB, IHC, IF applications. This antibody reacts with Human, Mouse.
Application	ELISA, IF, IHC, WB
Clonality	Polyclonal
Formulation	SAMHD1 (phospho Thr592) antibody is supplied in PBS containing 0.02% sodium azide.
Storage Instructions	SAMHD1 (phospho Thr592) antibody can be stored at 4°C for three months and -20°C, stable for up to one year.
Host	Rabbit
Uniprot ID	Q9Y3Z3

Technical Details

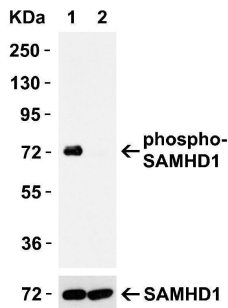
Immunogen	Anti-SAMHD1 (phospho Thr592) antibody was raised against a phosphorylated peptide corresponding to 18 amino acids near the carboxy terminus of human Phospho-SAMHD1 surrounding T592.
Predicted Reactive Species	Mouse
Cross Reactivity	Phospho-SAMHD1 antibody will only detect the phosphorylated form of SAMHD1.
Isotype	IgG
Form	Liquid
Concentration	1 mg/mL
Purification	SAMHD1 (phospho Thr592) antibody is affinity chromatography purified via peptide column.
Suggested Dilutions	WB: 0.05-1 ug/mL; IHC: 2.5 ug/mL; IF: 20 ug/mL.

Antibody validated: Western Blot in human and mouse samples, Immunohistochemistry and Immunofluorescence in human samples. All other applications and species not yet tested. Optimal dilutions for each application should be determined by the researcher.

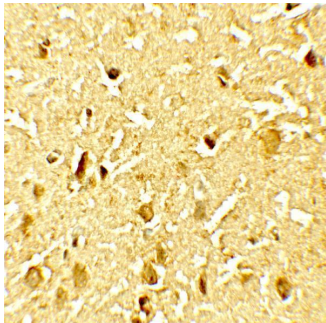
Anti-SAMHD1 (phospho Thr592) Antibody (A00592T592) Images



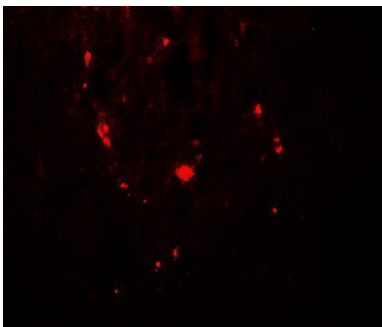
Western Blot Validation in Human 293 Cells Loading: 15 ug of lysates per lane. Antibodies: SAMHD1 (phospho Thr592) A00592T592 (1 ug/mL), (1h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution. 293 cells were transfected with (A) empty expression vector, (B) wild-type SAMHD1, (C) SAMHD1 (mutation T592A) and (D) SAMHD1 (mutation T592E)



Mutant Validation in 293T Transfected Cells Loading: 15 ug of lysates per lane. Antibodies: SAMHD1 (phospho Thr592) A00592T592 (0.05 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).

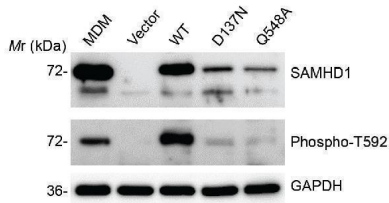
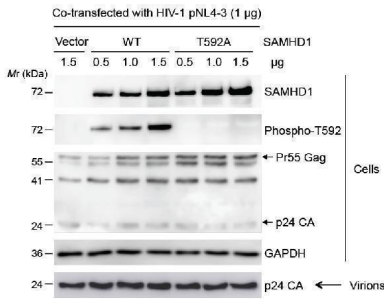


Immunohistochemistry Validation of SAMHD1 (phospho Thr592) in Human Brain Tissue Immunohistochemical analysis of paraffin-embedded Human Brain Tissue using anti- SAMHD1 (phospho Thr592) antibody (A00592T592) at 2.5 ug/ml. Tissue was fixed with formaldehyde and blocked with 10% serum for 1 h at RT; antigen 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.

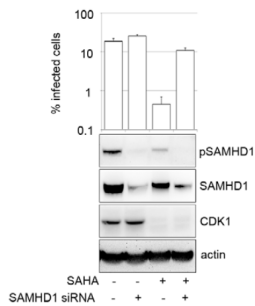


Immunofluorescence Validation of SAMHD1 (phospho Thr592) in Human Brain Tissue Immunofluorescent analysis of 4% paraformaldehyde-fixed Human Brain Tissue labeling phospho SAMHD1 (phospho Thr592) with A00592T592 at 20 ug/mL, followed by goat anti-rabbit IgG secondary antibody at 1/500 dilution (red).

Mutant Validation of SAMHD1 (phospho Thr592) in human embryonic kidney (HEK) 293T cells (Antonucci et al., 2016) WB analysis showed protein expression level of SAMHD1 (phospho Thr592) detected by anti- SAMHD1 (phospho Thr592) antibody (A00592T592). SAMHD1 (phospho Thr592) expression was detected only in SAMHD1 WT, but neither in SAMHD1 T592A mutant nor the control group (empty vector).

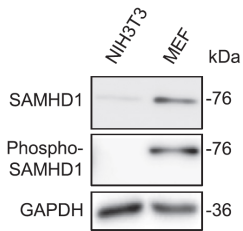


Mutant Validation of SAMHD1 (phospho Thr592) in primary monocyte-derived macrophages (MDM) from a healthy donor and human monocytic U937 cells (Antonucci et al., 2016) The expression levels of SAMHD1 (phospho Thr592) detected by anti- SAMHD1 (phospho Thr592) antibody (A00592T592) in SAMHD1 mutants (D137N & Q548A) of U937 cells are lower than those of SAMHD1 WT or MDM.

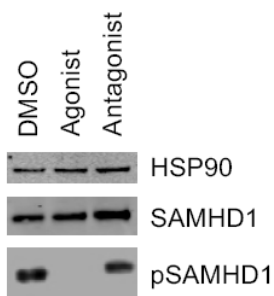


KD Validation of SAMHD1 (phospho Thr592) in human Macrophages (Mlcochova et al., 2017) SAMHD1 (phospho Thr592) signal detected by anti- SAMHD1 (phospho Thr592) antibody (A00592T592) in SAMHD1 knockdown cells were disrupted as compared to control.

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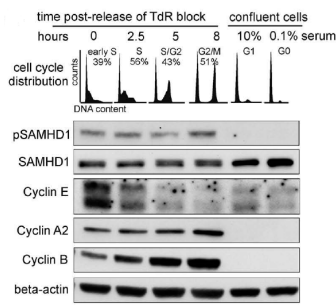


Western Blot Validation of SAMHD1 (phospho Thr592) in Mouse Cells (Wang et al., 2016) WB analysis showed protein expression level of SAMHD1 (phospho Thr592) detected by anti-SAMHD1 (phospho Thr592) antibody (A00592T592). Mouse SAMHD1 was detected mouse MEF cells

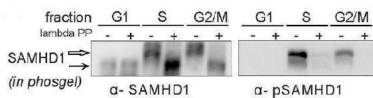


Western Blot Validation of SAMHD1 (phospho Thr592) in herpes simplex viruses (HSV-1) infected human macrophages (Kueck et al., 2018) HSV-1 infected macrophages were treated with aryl hydrocarbon receptor (AhR) agonist or antagonist. WB analysis showed protein expression level of SAMHD1 (phospho Thr592) detected by anti- SAMHD1 (phospho Thr592) antibody (A00592T592). AhR agonist repressed SAMHD1 (phospho Thr592) expression as compared to the control group or AhR antagonist. Representative of 2 different donors.

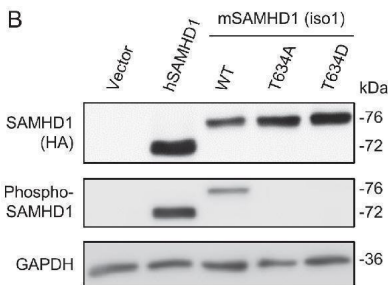
Western Blot Validation of SAMHD1 (phospho Thr592) in normal human fibroblasts (Tramentozzi et al., 2018) WB



analysis showed protein expression level of SAMHD1 (phospho Thr592) detected by anti- SAMHD1 (phospho Thr592) antibody (A00592T592). SAMHD1 (phospho Thr592) expression was detected in S and G2/M phase of cell cycle but not in G1 phase.



Regulated Expression Validation of SAMHD1 (phospho Thr592) in parental THP-1 cells (Tramentozzi et al., 2018) WB analysis showed protein expression level of SAMHD1 (phospho Thr592) detected by anti- SAMHD1 (phospho Thr592) antibody (A00592T592). SAMHD1 (phospho Thr592) expression was significantly decreased in S and G2/M phase with the treatment of lambda-phosphatase.



Western Blot Validation of SAMHD1 (phospho Thr592) in Mouse SAMHD1 Transfected Cells (Wang et al., 2016) WB analysis showed protein expression level of SAMHD1 (phospho Thr592) detected by anti-SAMHD1 (phospho Thr592) antibody (A00592T592). Mouse SAMHD1 was detected in transfected cells with WT mSAMHD1, but not with mutants.

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Anti-SAMHD1 (phospho Thr592) Antibody

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