Anti-MTH1 Antibody [PSH02-40]

HA721817

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P, FC
Molecular Wt:	Predicted band size: 18 kDa
Clone number:	PSH02-40

Description: Oxidized purine nucleoside triphosphate hydrolase which is a prominent sanitizer of the oxidized nucleotide pool. Catalyzes the hydrolysis of 2-oxo-dATP (2-hydroxy-dATP) into 2-oxo-dAMP. Has also a significant hydrolase activity toward 2-oxo-ATP, 8-oxo-dGTP and 8-oxo-dATP. Through the hydrolysis of oxidized purine nucleoside triphosphates, prevents their incorporation into DNA and the subsequent transversions A:T to C:G and G:C to T:A . Also catalyzes the hydrolysis of methylated purine nucleoside triphosphate preventing their integration into DNA . Through this antimutagenic activity protects cells from oxidative stress .

Immunogen: Recombinant protein within human MTH1 aa 1-156 / 156 (P36639).

Positive control: HEK-293 cell lysate, HeLa cell lysate, Jurkat cell lysate, HepG2 cell lysate, K-562 cell lysate, A549 cell lysate, MCF7 cell lysate, SW480 cell lysate, THP-1 cell lysate, SK-OV-3 cell lysate, U-2 OS cell lysate, human breast cancer tissue, NIH/3T3 cell lysate, C2C12 cell lysate, bEnd.3 cell lysate, RAW264.7 cell lysate, F9 cell lysate, Neuro-2a cell lysate, C6 cell lysate, L6 cell lysate, PC-12 cell lysate, mouse thymus tissue lysate, rat thymus tissue lysate, mouse testis tissue lysate, rat testis tissue lysate, human stomach cancer tissue, human thymus tissue, rat thymus tissue, Jurkat.

Subcellular location: Cytoplasm, cytosol,Mitochondrion matrix,Nucleus,Mitochondrion matrix

Database links: SwissProt: P36639 Human | P53368 Mouse | P53369 Rat

Recommended Dilutions:

WB	1:1,000
IHC-P	1:200~1:1,000
FC	1:1,000

Storage Buffer: PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Store at +4℃ after thawing. Aliquot store at -20℃. Avoid repeated freeze / thaw cycles.

Purity: Protein A affinity purified.

Images

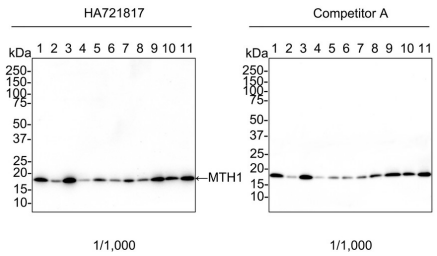

Fig1: Western blot analysis of MTH1 on different lysates with Rabbit anti-MTH1 antibody (HA721817) at 1/1,000 dilution and competitor's antibody at 1/1,000 dilution.

Lane 1: HEK-293 cell lysate
Lane 2: HeLa cell lysate
Lane 3: Jurkat cell lysate
Lane 4: HepG2 cell lysate
Lane 5: K-562 cell lysate
Lane 6: A549 cell lysate
Lane 7: MCF7 cell lysate
Lane 8: SW480 cell lysate
Lane 9: THP-1 cell lysate
Lane 10: SK-OV-3 cell lysate
Lane 11: U-2 OS cell lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 18 kDa
Observed band size: 18 kDa

Exposure time: 5 minutes;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721817) at 1/1,000 dilution and competitor's antibody at 1/1,000 dilution were used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

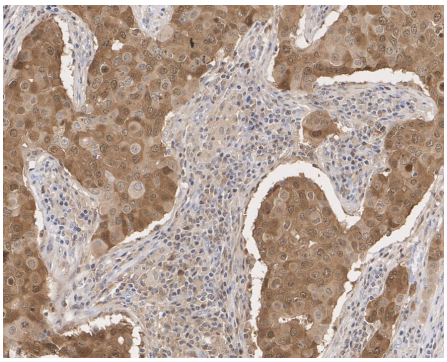

Fig2: Immunohistochemical analysis of paraffin-embedded human breast cancer tissue with Rabbit anti-MTH1 antibody (HA721817) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721817) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

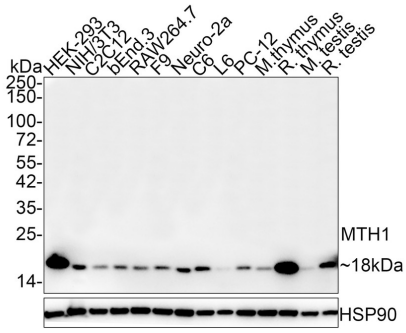

Fig3: Western blot analysis of MTH1 on different lysates with Rabbit anti-MTH1 antibody (HA721817) at 1/1,000 dilution.

Lane 1: HEK-293 cell lysate
Lane 2: NIH/3T3 cell lysate
Lane 3: C2C12 cell lysate
Lane 4: bEnd.3 cell lysate
Lane 5: RAW264.7 cell lysate
Lane 6: F9 cell lysate
Lane 7: Neuro-2a cell lysate
Lane 8: C6 cell lysate
Lane 9: L6 cell lysate
Lane 10: PC-12 cell lysate
Lane 11: Mouse thymus tissue lysate
Lane 12: Rat thymus tissue lysate
Lane 13: Mouse testis tissue lysate
Lane 14: Rat testis tissue lysate

Lysates/proteins at 20 µg/Lane.

Predicted band size: 18 kDa
Observed band size: 18 kDa

Exposure time: 5 minutes;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721817) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

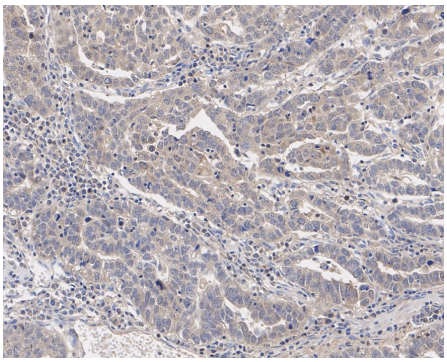

Fig4: Immunohistochemical analysis of paraffin-embedded human stomach cancer tissue with Rabbit anti-MTH1 antibody (HA721817) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721817) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

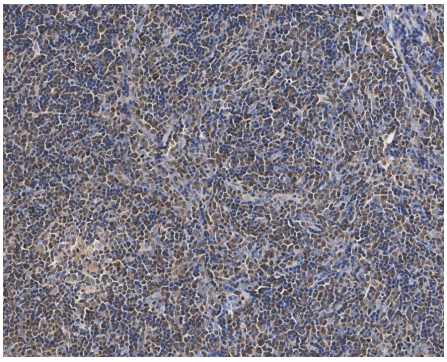

Fig5: Immunohistochemical analysis of paraffin-embedded human thymus tissue with Rabbit anti-MTH1 antibody (HA721817) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721817) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

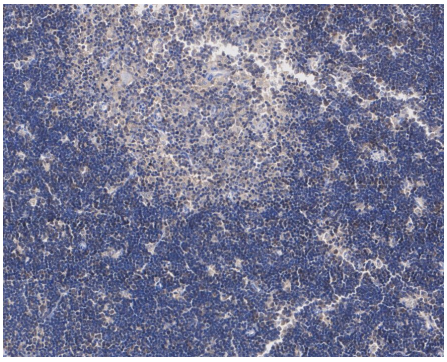

Fig6: Immunohistochemical analysis of paraffin-embedded rat thymus tissue with Rabbit anti-MTH1 antibody (HA721817) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA721817) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

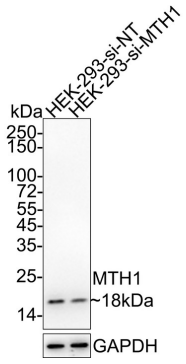

Fig7: Western blot analysis of MTH1 on different lysates with Rabbit anti-MTH1 antibody (HA721817) at 1/1,000 dilution.

Lane 1: HEK-293-si NT cell lysate
Lane 2: HEK-293-si MTH1 cell lysate

Lysates/proteins at 10 µg/Lane.

Predicted band size: 18 kDa
Observed band size: 18 kDa

Exposure time: 1 minute 34 seconds;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA721817) at 1/1,000 dilution was used in 5% NFDM/TBST at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

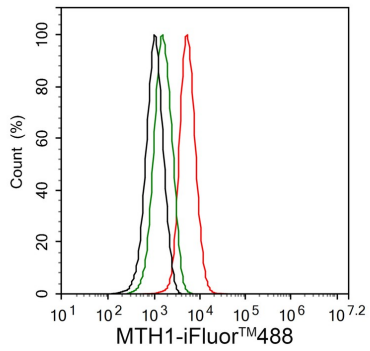

Fig8: Flow cytometric analysis of Jurkat cells labeling MTH1.

Cells were fixed and permeabilized. Then stained with the primary antibody (HA721817,1:1,000) (red) compared with Rabbit IgG Isotype Control (green). After incubation of the primary antibody at +4℃ for an hour, the cells were stained with a iFluor™ 488 conjugate-Goat anti-Rabbit IgG Secondary antibody (HA1121) at 1/1,000 dilution for 30 minutes at +4℃. Unlabelled sample was used as a control (cells without incubation with primary antibody; black).

Background References

1. Duan J.et al. The role of miR-485-5p/NUDT1 axis in gastric cancer. Cancer Cell Int. 2017 Oct 17;17:92.
2. Ding Y.et al. MTH1 protects platelet mitochondria from oxidative damage and regulates platelet function and thrombosis. Nat Commun. 2023 Aug 10;14(1):4829.