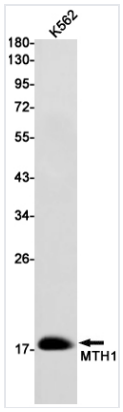
MTH1 Antibody – Rabbit Monoclonal

PRODUCT OVERVIEW

Product Name	MTH1, Monoclonal Antibody
Full Product Name	MTH1 Rabbit mAb
Product Gene Name	anti-MTH1 antibody
Product Synonym Names	MTH1
Clonality	Monoclonal
Isotype	Rabbit IgG
Clone Number	S06-8A6
Host	Recombinant Rabbit
Species Reactivity	Human
Form/Format	50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40% Glycerol, 0.01% Sodium azide and 0.05% BSA
Purity/Purification	Affinity Purified
Concentration	0.3mg/ml (lot specific)
Preparation and Storage	Store at 4 degree C short term. Aliquot and store at -20 degree C long term. Avoid freeze/thaw cycles.
Molecular Weight	17,952 Da
OMIM	600312
3D Structure	ModBase 3D Structure for P36639
Immunogen	Recombinant protein of human MTH1
Conjugation	Unconjugated
Modification	Unmodification
Product Categories/Family for anti-MTH1 antibody	Primary Antibody
Applications Tested/Suitable for anti-MTH1 antibody	Western Blot (WB)
Application Notes for anti-MTH1 antibody	WB: 1/1000
Related Product Information for anti-MTH1 antibody	Antimutagenic (PubMed:8226881, PubMed:7713500, PubMed:10608900). Plays a redundant role in sanitizing oxidized nucleotide pools, such as 8-oxo-dGTP pools (PubMed:28679043). Acts as a sanitizing enzyme for oxidized nucleotide pools, thus suppressing cell dysfunction and death induced by oxidative stress (PubMed:12857738, PubMed:24695224, PubMed:24695225). Hydrolyzes 8-oxo-dGTP, 8-oxo-dATP and 2-OH-dATP, thus preventing misincorporation of oxidized purine nucleoside triphosphates into DNA and subsequently preventing A:T to C:G and G:C to T:A transversions (PubMed:8226881, PubMed:10373420, PubMed:10608900, PubMed:11756418, PubMed:12857738, PubMed:16607562, PubMed:24695224, PubMed:24695225, PubMed:26999531, PubMed:28035004). Able to hydrolyze also the corresponding ribonucleotides, 2-OH-ATP, 8-oxo-GTP and 8-oxo-ATP (PubMed:10373420, PubMed:11139615). Does not play a role in U8 snoRNA decapping activity. Binds U8 snoRNA.
Other Notes	Small volumes of anti-MTH1 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.

Searchable Terms for MTH1 purchase	MBS9467150 is an antibody targeting MTH1. Also known as MTH1 Rabbit mAb. Reactive in Human. Host: Recombinant Rabbit.



Western Blot (WB) of anti-MTH1 antibody
Western blot detection of MTH1 in K562 cell lysates using MTH1 Rabbit mAb(1:1000 diluted).Predicted band size:23kDa.Observed band size:18kDa.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for MTH1. It may not necessarily be applicable to this product.

NCBI GI #	40288274
NCBI GeneID	4521
NCBI Accession #	NP_002443.3
UniProt Primary Accession #	P36639
UniProt Secondary Accession #	Q6LES7; Q6P0Y6; Q7Z7N6; Q8IV95; Q9UBM0; Q9UBM9; A4D205
UniProt Related Accession #	P36639
GenBank Nucleotide #	NM_002452.3
NCBI Official Full Name	7,8-dihydro-8-oxoguanine triphosphatase isoform p18
NCBI Official Synonym Full Names	nudix (nucleoside diphosphate linked moiety X)-type motif 1
NCBI Official Symbol	NUDT1
NCBI Official Synonym Symbols	MTH1
UniProt Protein Name	7,8-dihydro-8-oxoguanine triphosphatase
UniProt Synonym Protein Names	2-hydroxy-dATP diphosphatase (EC:3.6.1.56); 8-oxo-dGTPase; Nucleoside diphosphate-linked moiety X motif 1; Nudix motif 1
Protein Family	Protein
UniProt Gene Name	NUDT1
UniProt Synonym Gene Names	MTH1; Nudix motif 1
UniProt Entry Name	8ODP_HUMAN
NCBI Protein Information	7,8-dihydro-8-oxoguanine triphosphatase; 2-hydroxy-dATP diphosphatase; 8-oxo-7,8-dihydrodeoxyguanosine triphosphatase; 8-oxo-7,8-dihydroguanosine triphosphatase; 8-oxo-dGTPase; mutT human homolog 1; nucleoside diphosphate-linked moiety X motif 1; nucleosi

NCBI Summary for MTH1	Misincorporation of oxidized nucleoside triphosphates into DNA/RNA during replication and transcription can cause mutations that may result in carcinogenesis or neurodegeneration. The protein encoded by this gene is an enzyme that hydrolyzes oxidized purine nucleoside triphosphates, such as 8-oxo-dGTP, 8-oxo-dATP, 2-hydroxy-dATP, and 2-hydroxy rATP, to monophosphates, thereby preventing misincorporation. The encoded protein is localized mainly in the cytoplasm, with some in the mitochondria, suggesting that it is involved in the sanitization of nucleotide pools both for nuclear and mitochondrial genomes. Several alternatively spliced transcript variants, some of which encode distinct isoforms, have been identified. Additional variants have been observed, but their full-length natures have not been determined. A single-nucleotide polymorphism that results in the production of an additional, longer isoform (p26) has been described. [provided by RefSeq, Jul 2008]
UniProt Comments for MTH1	NUDT1: Antimutagenic. Acts as a sanitizing enzyme for oxidized nucleotide pools, thus suppressing cell dysfunction and death induced by oxidative stress. Hydrolyzes 8-oxo-dGTP, 8-oxo-dATP and 2-OH-dATP, thus preventing misincorporation of oxidized purine nucleoside triphosphates into DNA and subsequently preventing A:T to C:G and G:C to T:A transversions. Able to hydrolyze also the corresponding ribonucleotides, 2-OH-ATP, 8-oxo-GTP and 8-oxo-ATP. Belongs to the Nudix hydrolase family. 4 isoforms of the human protein are produced by alternative initiation. Protein type: Hydrolase; EC 3.6.1.56; EC 3.6.1.55 Chromosomal Location of Human Ortholog: 7p22 Cellular Component: mitochondrion; mitochondrial matrix; cytoplasm; nucleus; cytosol Molecular Function: GTPase activity; snoRNA binding; m7G(5')pppN diphosphatase activity; ATP diphosphatase activity; metal ion binding; 8-oxo-7,8-dihydroguanine triphosphatase activity Biological Process: DNA protection; dGTP catabolic process; dATP catabolic process; nucleobase, nucleoside and nucleotide metabolic process; purine nucleotide catabolic process; response to oxidative stress; DNA repair
Research Articles on MTH1	**1.** Data suggest that hOGG1 could compensate for hMTH1 during oxidative DNA damage caused by H2O2, whereas hMTH1 could not compensate sufficiently for hOGG1 during the process.
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