

AMT (S-17): sc-99267

BACKGROUND

AMT (Aminomethyltransferase), also known as GCST (Glycine cleavage system T), GCE or NKH, is a 403 amino acid mitochondrial protein that is one of 4 components of the glycine cleavage system. The glycine cleavage system is comprised of AMT (known as Protein T), GCSH (known as Protein H), DLD (known as Protein L) and GLDC (known as Protein P), all of which work together to catalyze the cleavage and degradation of glycine. Expressed ubiquitously, AMT plays a crucial role in glycine degradation pathway, specifically catalyzing the creation of 5,10-methylenetetrahydrofolate. Defects in the gene encoding AMT are a cause of non-ketotic hyperglycinemia (NKH), also known as glycine encephalopathy (GCE), which is an autosomal recessive error of glycine degradation that is characterized by severe mental retardation.

REFERENCES

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2. Hayasaka, K., et al. 1993. Isolation and sequence determination of cDNA encoding human T-protein of the glycine cleavage system. *Biochem. Biophys. Res. Commun.* 192: 766-771.
3. Nanao, K., et al. 1994. Structure and chromosomal localization of the aminomethyltransferase gene (AMT) *Genomics* 19: 27-30.
4. Toone, J.R., et al. 2001. Recurrent mutations in P- and T-proteins of the glycine cleavage complex and a novel T-protein mutation (N145I): a strategy for the molecular investigation of patients with nonketotic hyperglycinemia (NKH). *Mol. Genet. Metab.* 72: 322-325.
5. Backofen, B. and Leeb, T. 2002. Genomic organization of the murine aminomethyltransferase gene (Amt). *DNA Seq.* 13: 179-183.
6. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 238310. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Toone, J.R., et al. 2003. Molecular genetic and potential biochemical characteristics of patients with T-protein deficiency as a cause of glycine encephalopathy (NKH). *Mol. Genet. Metab.* 79: 272-280.
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CHROMOSOMAL LOCATION

Genetic locus: AMT (human) mapping to 3p21.31; Amt (mouse) mapping to 9 F2.

SOURCE

AMT (S-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of AMT of human origin.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-99267 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

AMT (S-17) is recommended for detection of AMT of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

AMT (S-17) is also recommended for detection of AMT in additional species, including equine, canine and porcine.

Suitable for use as control antibody for AMT siRNA (h): sc-78025, AMT siRNA (m): sc-141055, AMT shRNA Plasmid (h): sc-78025-SH, AMT shRNA Plasmid (m): sc-141055-SH, AMT shRNA (h) Lentiviral Particles: sc-78025-V and AMT shRNA (m) Lentiviral Particles: sc-141055-V.

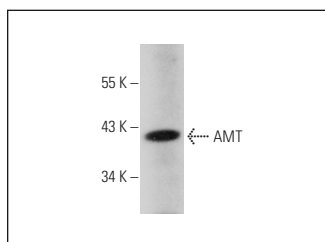
Molecular Weight of AMT: 44 kDa.

Positive Controls: mouse kidney extract: sc-2255.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



AMT (S-17): sc-99267. Western blot analysis of AMT expression in mouse kidney tissue extract.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.