

# MTAP (FL-283): sc-292380

## BACKGROUND

5'-Deoxy-5'-methylthioadenosine phosphorylase (MTAP, MSAP) catalyzes the reversible phosphorolysis of methylthioadenosine, which is important in polyamine metabolism and for the salvage of adenine and methionine. The gene encoding MTAP maps to human chromosome 9p21.3 and is linked to the tumor suppressor gene, p16<sup>INK4A</sup>. Deficient levels of MTAP can occur in cancers primarily through codeletion of the MTAP gene and the p16<sup>INK4A</sup> gene. Cells expressing MTAP and possessing adenine salvage pathway activity may be less susceptible to malignancy due to growth-inhibitory actions of agents (e.g. antifolates), whose mechanism of action, in part, involves this *de novo* purine pathway.

## REFERENCES

1. Nobori, T., et al. 1996. Genomic cloning of methylthioadenosine phosphorylase: a purine metabolic enzyme deficient in multiple different cancers. *Proc. Natl. Acad. Sci. USA* 93: 6203-6208.
2. Chen, Z.H., et al. 1997. Expression of methylthioadenosine phosphorylase cDNA in p16-, MTAP- malignant cells: restoration of methylthioadenosine phosphorylase-dependent salvage pathways and alterations of sensitivity to inhibitors of purine *de novo* synthesis. *Mol. Pharmacol.* 52: 903-911.
3. Yu, J., Batova, A., et al. 1997. Presence of methylthioadenosine phosphorylase (MTAP) in hematopoietic stem/progenitor cells: its therapeutic implication for MTAP (-) malignancies. *Clin. Cancer Res.* 3: 433-438.
4. Schmid, M., et al. 1998. Homozygous deletions of methylthioadenosine phosphorylase (MTAP) are more frequent than p16<sup>INK4A</sup> (CDKN2) homozygous deletions in primary non-small cell lung cancers (NSCLC). *Oncogene* 17: 2669-2675.
5. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 156540. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Schmid, M., et al. 2000. A methylthioadenosine phosphorylase (MTAP) fusion transcript identifies a new gene on chromosome 9p21 that is frequently deleted in cancer. *Oncogene* 19: 5747-5754.
7. LocusLink Report (LocusID: 4507). <http://www.ncbi.nlm.nih.gov/LocusLink/>

## CHROMOSOMAL LOCATION

Genetic locus: MTAP (human) mapping to 9p21.3; Mtap (mouse) mapping to 4 C4.

## SOURCE

MTAP (H-171) is a rabbit polyclonal antibody raised against amino acids 27-197 mapping near the N-terminus of MTAP of human origin.

## PRODUCT

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

## RESEARCH USE

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

## APPLICATIONS

MTAP (H-171) is recommended for detection of MTAP 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).

MTAP (H-171) is also recommended for detection of MTAP in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for MTAP siRNA (h): sc-60006, MTAP siRNA (m): sc-60007, MTAP shRNA Plasmid (h): sc-60006-SH, MTAP shRNA Plasmid (m): sc-60007-SH, MTAP shRNA (h) Lentiviral Particles: sc-60006-V and MTAP shRNA (m) Lentiviral Particles: sc-60007-V.

Molecular Weight of MTAP: 31 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.