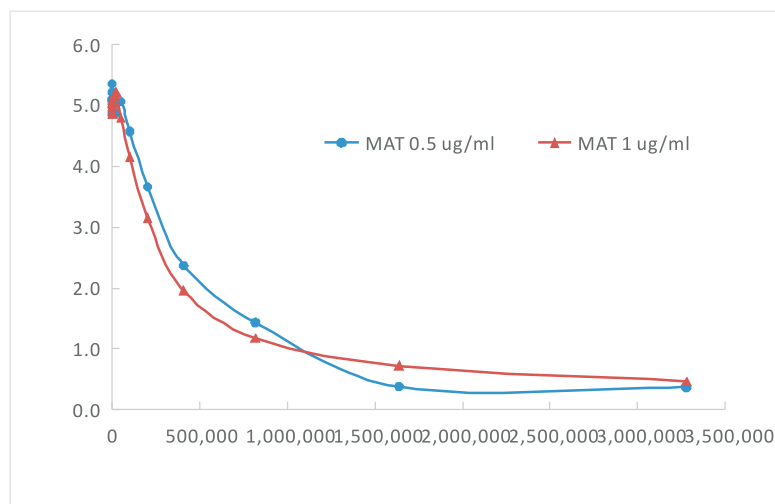


Rabbit anti-MAT Anti-serum s/g

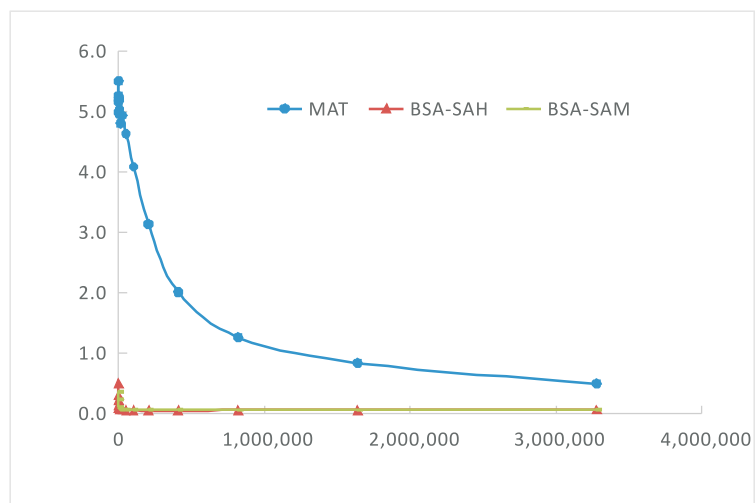
Product name	Rabbit anti-MAT s, Rabbit anti-MAT g
Catalog Number	PA00401-50 (no glycerol), PA00402-50 (with glycerol)
Description	Rabbit polyclonal antiserum against methionine adenosyltransferase (MAT, E.C. 2.5.1.6)

Properties

Form	Liquid
Storage instruction	Store at 4°C if used within 1-2 weeks, store at below -20°C for long term
Storage buffer	Antiserum in PBS 10mM pH 7.4 (NaCl 150mM), sodium azide 0.02% (glycerol 50%)
Packaging	50 µl
Clonality	Rabbit polyclonal
Titer	~ 1:420,000 (ELISA)



Specificity SAM: S-adenosylmethionine, SAH: S-adenosylhomocysteine, BSA: Bovine Serum Albumin



Immunogen	recombinant MAT conjugated to KLH
Research Areas	Methylation of biomolecules (DNA, RNA, proteins, hormones, neurotransmitters, etc.) One-carbon and mitochondrial metabolisms Signal transduction Epigenetics Pathways and processes Cancer and other disorders

Applications

The use of PA00401 or Pa00402 in the following applications has been tested.

The application notes include recommended starting dilutions. Optimal dilutions/concentrations should be determined by the end user. The product can be used in other applications such as IHC, Immunoprecipitation etc.

Application	Notes
ELISA	~ 1:420,000

Target

Except for parasites that rely on host for living, cells from all organisms have methionine adenytransferase (MAT, EC2.5.1.6), also known as S-adenosylmethionine synthetase. MAT genes have been found to be exceptionally conserved throughout evolution. It was reported that there is 59% homology between human and E. coli MAT gene sequences. In mammals, three forms or isozymes of MAT have been identified that are encoded by three MAT genes. The MAT1a gene encodes $\alpha 1$ catalytic subunit. MAT-I is a tetramer of $\alpha 1$ subunits and MAT-III a dimer of the same subunits. Both MAT-I and MAT-III are present in adult liver cells. MAT-II is a heterotetramer formed by MAT2a encoding the catalytic subunit of $\alpha 2$ and MAT2b gene encoding regulatory β subunit, present in cells other than liver, embryonic liver and hepatoma cells. MAT catalytic reaction in the body is divided into two steps: (1) Catalyze L-methionine (L-Met) and adenosine triphosphate (ATP) to generate S-adenosylmethionine (known as the active methionine, SAM) and tripolyphosphate (PPPi). Both SAM and PPPi remain on the surface of MAT at this stage. (2)The phosphatase activity of MAT further decompose PPPi to dimeric phosphoric acid (PPi) and inorganic monophosphate (Pi). SAM can only be synthesized by MAT. SAM is one of the few sulfur-containing active substances that carry extremely diverse and important biological functions in nature and is the key molecules in the methionine cycle.

Cellular localization	cytoplasm, nucleus
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