

## Rabbit anti-SAM a/b

<b>Product name</b>	Rabbit anti-SAM a/b
<b>Catalog Number</b>	PA00201-50/100
<b>Description</b>	Rabbit polyclonal antibody to S- Adenosylmethionine [R3]
<b>Specificity</b>	Dosage-dependent competition was detected as a sample was added to a cELISA (Any SAM from a sample competes with the coated SAM heptan to bind anti-SAM polyclonal antibody R3). The sample is the product of the following biochemical reaction: Methionine Adenosyltransferase (MAT) was added to methionine and adenosine triphosphate under an appropriate buffer at 37°C. It indicates that antibody R3 specifically binds physiologically produced SAM.
<b>Cross Reaction</b>	PA00201 shows the following reactivity with related compounds: S-Adenosylmethionine: 100%, S-Adenosylhomocysteine: < 1%, Adenosine: < 1%, L-Methionine: < 1%, Methylioadenosine (MTA): ~3.5%, ADP (adenosine diphosphate): < 1%, ATP (adenosine triphosphate): < 1%
<b>Immunogen</b>	S- Adenosylmethionine analog conjugated to KLH

## Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Store at 4°C, -20°C for long term storage
<b>Storage buffer</b>	PBS 10mM pH7.4 (NaCl 150mM), Sodium azide 0.02%, BSA 10mg/ml or PBS 10mM pH7.4 (NaCl 150mM), Sodium azide 0.02%, Glycerol 50%, BSA 10mg/ml
<b>Purity</b>	>95% Purified from mouse ascites fluid by affinity chromatography
<b>Clonality</b>	Rabbit polyclonal
<b>Clone number</b>	R3
<b>Immunoglobulin isotype</b>	Polyclonal
<b>Affinity</b>	$K_a = 9.58 \times 10^8 \text{L/mol} (1.04 \times 10^{-9} \text{M})$
<b>Research Areas</b>	Methylation of biomolecules (DNA, RNA, proteins, hormones, neurotransmitters, etc.) One-carbon metabolism Signal Transduction Metabolism Pathways and Processes Cancers Arthritis Heart diseases Neurodegenerative diseases Atherosclerosis Liver diseases Kidney diseases

## Applications

The use of PA00201 in the following tested applications has been tested.

The application notes include recommended starting dilutions. Optimal dilutions/concentrations should be determined by the end user. Higher dilution than suggested may be used in IHC and IF. The product may be used in other not-yet-tested applications.

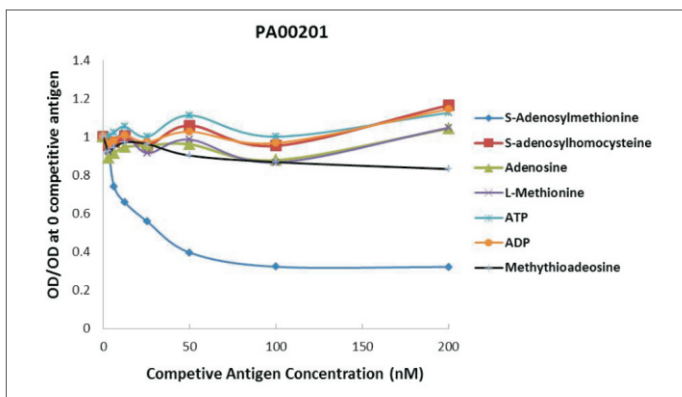
Application	Notes
cELISA	1:2000-3000
FCM	1:20-40
IHC	1:20-40

## Target

S- Adenosylmethionine is a common co-substrate involved in methyl group transfers. It is made from adenosine triphosphate (ATP) and methionine by methionine adenosyltransferase. Transmethylation, transsulfuration, and aminopropylation are the metabolic pathways that use SAM. Although these anabolic reactions occur throughout the body, most SAM is produced and consumed in the liver.

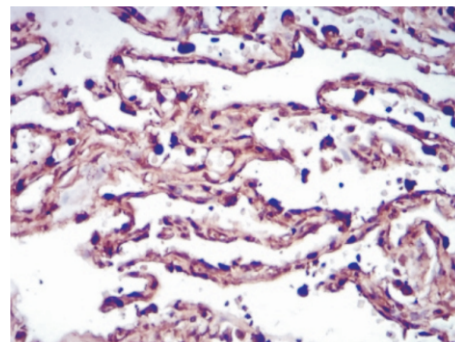
**Cellular localization** Cytoplasm, nuclear

## Anti-Adenosylmethionine antibody [R3]

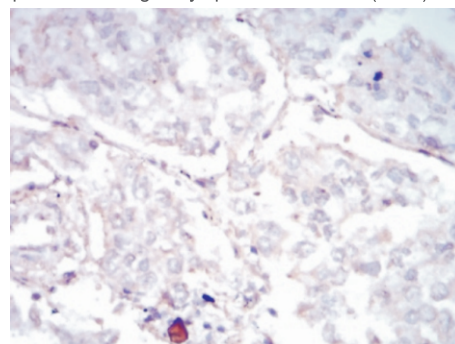


**Figure 1** Competitive ELISA with anti-S-Adenosylmethionine polyclonal antibody [R3] (PA00201)

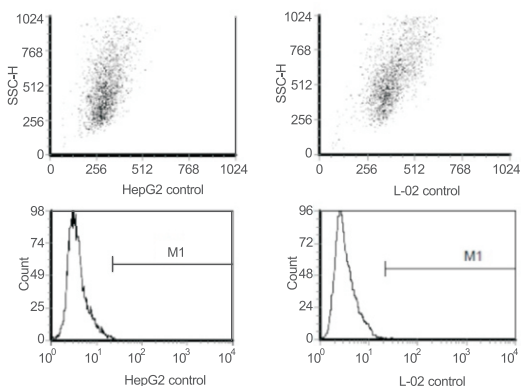
The 0.1 µg/ml of SAM coating standard (Cat # ACT00201) was coated into 96 wells. Serial dilution of SAM standard (Cat # AST00201), S-Adenosylhomocysteine (SAH), Adenosine (Ade), L-Methionine (Met), Methylioadeosine (MTA), Adenosine diphosphate (ADP), Adenosine triphosphate (ATP) and properly diluted rabbit anti-SAM serum was added. HRP conjugated Goat anti-Rabbit IgG antibody was used and TMM to develop the color.



**Figure 2** Immunohistochemistry staining performed using PA00201 (1:20) with benign lung tissue adjacent to carcinoma. Brown areas indicated strong positive staining in cytoplasm and nuclei (X400).



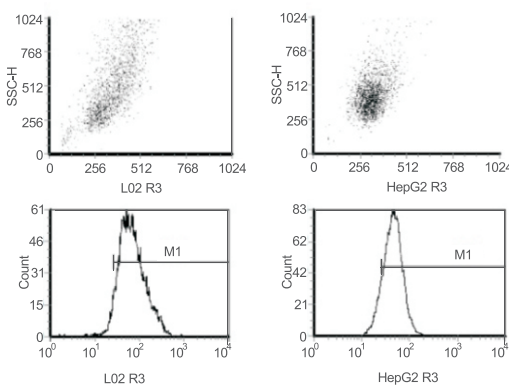
**Figure 3** The immunohistochemical staining was performed for the same sample as in Figure 2 with lung cancer tissue. Cytoplasm and nucleus showed negative staining with PA00201 at 1:20 dilution (X400).



Marker	Low bound	High bound	# of Events	# of gated cells	Geometric Mean
ALL	1	10000	10000	100.0	3.86
M1	22	10000	67	0.67	40.15

Marker	Low bound	High bound	# of Events	# of gated cells	Geometric Mean
ALL	1	10000	10000	100.0	3.35
M1	22	10000	70	0.7	39.35

**Figure 4** FCM analysis control. Normal liver cells L02 and carcinoma cells Hep G2 were stained with the buffer without any antibody.



Marker	Low bound	High bound	# of Events	# of gated cells	Geometric Mean
ALL	1	10000	10000	100.0	67.74
M1	26	10000	9424	94.24	73.92

Marker	Low bound	High bound	# of Events	# of gated cells	Geometric Mean
ALL	1	10000	10000	100.0	44.41
M1	26	10000	8709	87.09	49.87

**Figure 5** FCM results from normal liver cell line L02 and hepatocyte carcinoma cell line Hep G2 stained with anti-SAM polyclonal antibody R3. Average fluorescence signal in Hep G2 cells was reduced compared to that in L02 cells, indicating SAM level is reduced during carcinogenesis.