Mouse anti–SAH 1a/b

Product name	**Mouse anti–SAH 1a/b**
Catalog Number	MA00301-50/100
Description	Mouse monoclonal antibody against S-Adenosylhomocysteine [301-1]
Specificity	MA00301 shows the following reactivities with related compounds: S-Adenosylhomocysteine: 100%, S-Adenosylmethionine: ~1.5%, Adenosine: <1 %, Homocysteine: < 1%, L-Cysteine: < 1%, Glutathione: < 1%, L-Cystathionine: < 1%, Methythioadenosine (MTA): < 5%, ADP (adenosine diphosphate): < 1%, ATP (adenosine triphosphate): < 1%.
Immunogen	S-Adenosylhomocysteine conjugated to BSA

Properties

Form	Liquid
Storage instructions	Store at 4°C, -20°C for long term storage
Storage buffer	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
Purity	>95% Purified from mouse ascites fluid by affinity chromatography
Clonality	Monoclonal
Clone number	301-1
Immunoglobin isotype	IgG3
Affinity	Ka = 2.778 x 10^{8}L/mol (3.60 x 10^{-9}M)
Research Areas	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 MA00301 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 maybe used in IHC and IF. The product may be used in other not-yet-tested applications.

Application	Notes
cELISA	1:4000/8000
FCM	1:200
IHC	1:200

Target

S-adenosylhomocysteine is a competitive inhibitor of S-adenosylmethionine-dependant methyl transferase reactions. Therefore, it plays a key role in the control of methylation via regulation of the intracellular concentration of S-adenosylhomocysteine.

Cellular localization

Cytoplasm, nuclear

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Anti–Adenosylhomocysteine antibody [301–1]

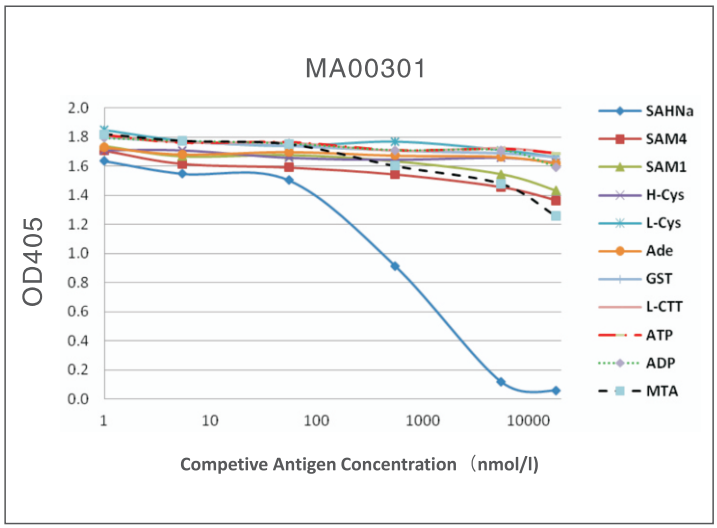


Figure 1 Competitive ELISA using anti-S-Adenosymethionine monoclonal antibody [301-1] (MA00301)

The 0.5 µg/ml of SAH-BSA was coated into 96 wells.Serial dilution of SAH standard (SAHNa),S-Adenosylmethionine (SAM4:Sigma-Aldrich Cat# A2408), SAM1:Aza-SAM Arthus Biosystems Cat# AST00201),Homocysteine (H-Cys), L-Cysteine (L-Cys),Adenosine (Ade),Glutathione (GST),L-Cystathionine (L-CTT),Methythioadenosine (MTA),ADP(adenosine diphosphate),ATP (adenosine triphosphate) and properly diluted MA00301 were added.HRP conjugated Goat anti-Mouse IgG antibody was used to develop the color.OD450 value was measured on each well.

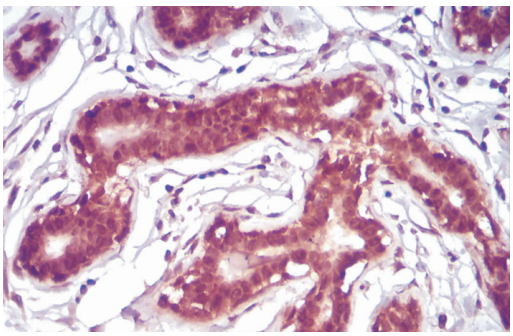


Figure 2 Immunohistochemistry staining was performed using MA00301 with benign breast tissue adjacent to carcinoma. Brown areas indicated strong positive staining in nuclear and cytoplasmic are as (x400).

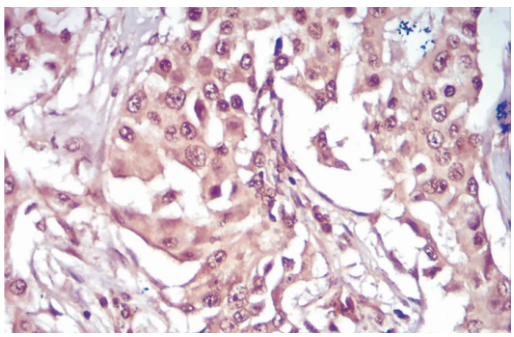
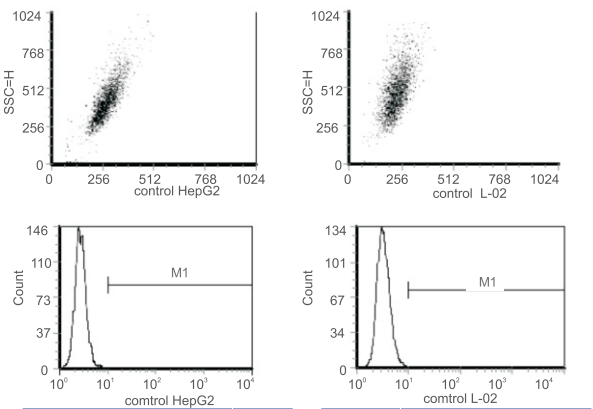


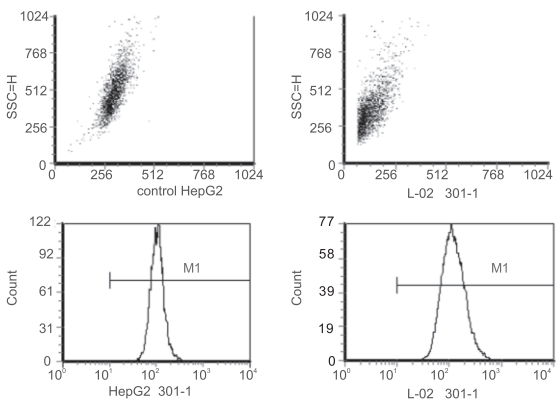
Figure 3 The same samples as in Figure 2 from breast cancer area. Cytoplasmic and nuclear areas showed weak or background staining(x400).



Marker	Low bound	High bound	# of Events	# of gated cells	Geometric Mean
ALL	1	10000	10000	100.0	2.72
M1	10	10000	17	0.17	48.98

Marker	Low bound	High bound	# of Events	# of gated cells	Geometric Mean
ALL	1	10000	10000	100.0	3.33
M1	10	10000	44	0.44	17.12

Figure 4 Control for FCM. 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	105.71
M1	10	10000	9994	99.94	105.97

Marker	Low bound	High bound	# of Events	# of gated cells	Geometric Mean
ALL	1	10000	10000	100.0	120.28
M1	10	10000	9996	99.96	120.48

Figure 5 FCM results from normal liver cell line L02 and hepatocyte carcinoma cell line Hep G2 stained with anti-SAH monoclonal antibody from clone 301-1. Average fluorescence signal h Hep G2 cells (56.99) was reduced compared to that in L02 cells (103.36), indicating SAM level is reduced during carcinogenesis.

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