10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-SHMT1 Antibody Picoband™ (monoclonal, 9C7)

Catalog # ABO15048

Specification

Anti-SHMT1 Antibody Picoband™ (monoclonal, 9C7) - Product Information

Application	**WB, IHC, IF, ICC, FC**
Primary Accession	P34896
Host	**Mouse**
Isotype	**Mouse IgG1**
Reactivity	**Rat, Human, Mouse, Monkey**
Clonality	**Monoclonal**
Format	**Lyophilized**

Description
Anti-SHMT1 Antibody Picoband™ (monoclonal, 9C7) . Tested in Flow Cytometry, IF, IHC, ICC, WB applications. This antibody reacts with Human, Monkey, Mouse, Rat.

Reconstitution
Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-SHMT1 Antibody Picoband™ (monoclonal, 9C7) - Additional Information

Gene ID 6470

Other Names
Serine hydroxymethyltransferase, cytosolic, SHMT, 2.1.2.1, Glycine hydroxymethyltransferase, Serine methylase, SHMT1

Calculated MW
53 kDa KDa

Application Details
Western blot, 0.25-0.5 µg/ml, Mouse, Monkey, Rat
 Immunohistochemistry (Paraffin-embedded Section), 2-5 µg/ml, Human
 Immunocytochemistry/Immunofluorescence, 5 µg/ml, Human
 Flow Cytometry, 1-3 µg/1x10^6 cells, Human

Contents
Each vial contains 4mg Trehalose, 0.9mg NaCl and 0.2mg Na2HPO4.

Immunogen
E.coli-derived human SHMT1 recombinant protein (Position: M1-S470).

Purification
Immunogen affinity purified.

Storage	**Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.**

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-SHMT1 Antibody Picoband™ (monoclonal, 9C7) - Protein Information

Name SHMT1

Function
Interconversion of serine and glycine (PubMed:24698160, PubMed:8505317).

Cellular Location
Cytoplasm.

Anti-SHMT1 Antibody Picoband™ (monoclonal, 9C7) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-SHMT1 Antibody Picoband™ (monoclonal, 9C7) - Images

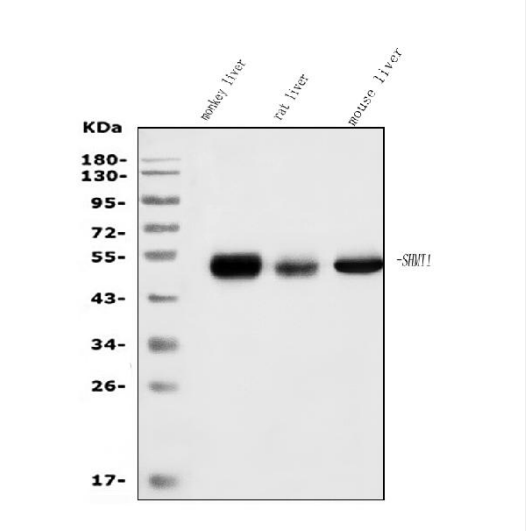

Figure 1. Western blot analysis of SHMT1 using anti-SHMT1 antibody (M02944).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30ug of sample under reducing conditions.
Lane 1: monkey liver tissue lysates,
Lane 2: rat liver tissue lysates,
Lane 3: mouse liver tissue lysates.
After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90

minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-SHMT1 antigen affinity purified monoclonal antibody (Catalog # M02944) at 0.5 µg/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for SHMT1 at approximately 53KD. The expected band size for SHMT1 is at 53KD.

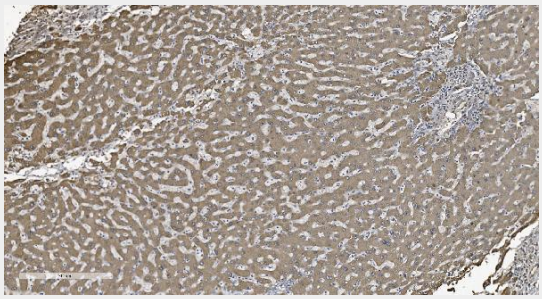

Figure 2. IHC analysis of SHMT1 using anti-SHMT1 antibody (M02944).
SHMT1 was detected in paraffin-embedded section of human liver cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-SHMT1 Antibody (M02944) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC) (Catalog # SA1021) with DAB as the chromogen.

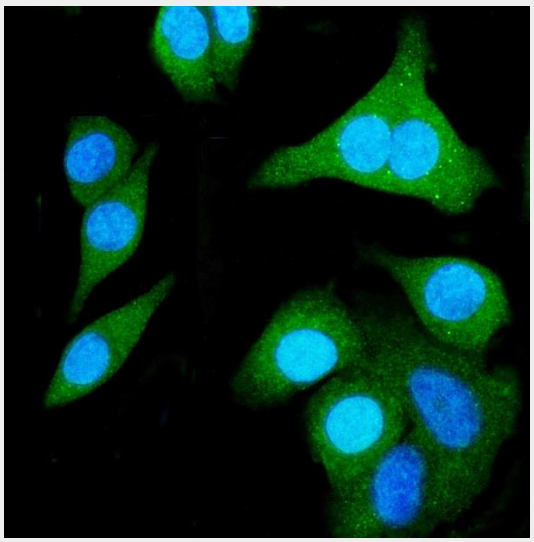

Figure 3. IF analysis of SHMT1 using anti-SHMT1 antibody (M02944).
SHMT1 was detected in immunocytochemical section of A549 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 µg/mL mouse anti-SHMT1 Antibody (M02944) overnight at 4°C. DyLight®488 Conjugated Goat Anti-Mouse IgG (BA1126) was used as secondary antibody at 1:100 dilution and incubated for 30 minutes at 37°C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

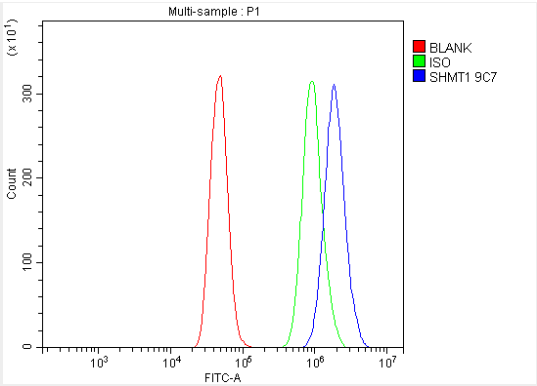

Figure 4. Flow Cytometry analysis of A431 cells using anti-SHMT1 antibody (M02944). Overlay histogram showing A431 cells stained with M02944 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-SHMT1 Antibody (M02944, 1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

Anti-SHMT1 Antibody Picoband™ (monoclonal, 9C7) - Background

This gene encodes the cytosolic form of serine hydroxymethyltransferase, a pyridoxal phosphate-containing enzyme that catalyzes the reversible conversion of serine and tetrahydrofolate to glycine and 5,10-methylene tetrahydrofolate. This reaction provides one-carbon units for synthesis of methionine, thymidylate, and purines in the cytoplasm. This gene is located within the Smith-Magenis syndrome region on chromosome 17. A pseudogene of this gene is located on the short arm of chromosome 1. Alternative splicing results in multiple transcript variants.