**Background**

Betaine-homocysteine methyltransferase (BHMT) is a zinc-dependent cytosolic protein that catalyzes the conversion of betaine and homocysteine to dimethylglycine and methionine, respectively. BHMT is highly expressed in rat liver, and its expression is regulated by dietary methionine and choline. In humans, S-adenosylmethionine (SAM) downregulates BHMT expression by inducing NFkB, which acts as a repressor for the BHMT gene. Lowered BHMT levels can lead to ER (endoplasmic reticulum) stress. Mutations in the gene encoding BHMT may lead to hyperhomocysteinemia, a medical condition characterized by abnormally large amounts of homocysteine in the blood, which may be a risk factor for cardiovascular and cerebrovascular diseases.

**References**


**Chromosomal Location**

Genetic locus: BHMT (human) mapping to 5q14.1; Bhtm (mouse) mapping to 13 C3.

**Source**

BHMT (3D6) is a mouse monoclonal antibody raised against full length recombinant BHMT of human origin.

**Product**

Each vial contains 100 µg IgG2a in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

**Applications**

BHMT (3D6) is recommended for detection of BHMT 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for BHMT siRNA (h): sc-91965, BHMT siRNA (m): sc-141697, BHMT shRNA Plasmid (h): sc-91965-SH, BHMT shRNA Plasmid (m): sc-141697-SH, BHMT shRNA (h) Lentiviral Particles: sc-91965-V and BHMT shRNA (m) Lentiviral Particles: sc-141697-V.

Molecular Weight of BHMT: 45 kDa.

Positive Controls: BHMT (m): 293T Lysate: sc-118804, mouse liver extract: sc-2256 or human kidney extract: sc-363764.

**Data**

![Western blot analysis of BHMT expression in non-transfected: sc-117752 (A) and mouse BHMT transfected: sc-118804 (B) whole cell lysates and mouse liver tissue extract (C)].

BHMT (3D6): sc-69708

Western blot analysis of BHMT expression in non-transfected: sc-117752 (A) and mouse BHMT transfected: sc-118804 (B) whole cell lysates.

**Select Product Citations**


**Storage**

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

**Research Use**

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