**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 NFκB, which acts as a repressor for the BHMT gene. Lowered BHMT levels can lead to ER (endoplasmic reticulum) stress. Mutations in the gene encoding for 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; Bhmt (mouse) mapping to 13 C3.

**SOURCE**

BHMT (H-46) is a rabbit polyclonal antibody raised against amino acids 361-406 mapping at the C-terminus of BHMT of human origin.

**PRODUCT**

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

**APPLICATIONS**

BHMT (H-46) 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

BHMT (H-46) is also recommended for detection of BHMT in additional species, including equine, canine, bovine and porcine.

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: mouse kidney extract: sc-2255, human kidney extract: sc-363764 or mouse liver extract: sc-2256.

**RECOMMENDED SECONDARY REAGENTS**

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

**DATA**

BHMT (H-46): sc-134648. Western blot analysis of BHMT expression in mouse kidney (A) and human kidney (B) tissue extracts.

**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.

**PROTOCOLS**

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

Try BHMT (H-7): sc-390299 or BHMT (3D6): sc-69708, our highly recommended monoclonal alternatives to BHMT (H-46).