



## HNMT (D-15): sc-107598

### BACKGROUND

Histamine is a biogenic amine that functions as a neurotransmitter in the gut and plays an important role in the immune system, specifically by dilating blood vessels in response to allergic reactions. HNMT (Histamine N-methyltransferase), also known as HMT, HNMT-S1 or HNMT-S2, is a 292 amino acid protein that exists as a monomer and belongs to the methyltransferase superfamily. Localized to the cytoplasm, HNMT catalytically inactivates histamine by N-methylation and, via this inactivation, plays an essential role in the degradation of histamine. Through its ability to regulate and reduce the amount of histamine within the cell, HNMT participates in the airway response and limits the severity of allergic reactions. A common genetic polymorphism in HNMT may be linked to a predisposition to asthma. HNMT is expressed as multiple isoforms due to alternative splicing events.

### REFERENCES

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2. Girard, B., et al. 1994. Human histamine N-methyltransferase pharmacogenetics: cloning and expression of kidney cDNA. *Mol. Pharmacol.* 45: 461-468.
3. Aksoy, S., et al. 1996. Human histamine N-methyltransferase gene: structural characterization and chromosomal location. *Biochem. Biophys. Res. Commun.* 219: 548-554.
4. Preuss, C.V., et al. 1998. Human histamine N-methyltransferase pharmacogenetics: common genetic polymorphisms that alter activity. *Mol. Pharmacol.* 53: 708-717.
5. Yan, L., et al. 2000. Histamine N-methyltransferase pharmacogenetics: association of a common functional polymorphism with asthma. *Pharmacogenetics* 10: 261-266.
6. Horton, J.R., et al. 2001. Two polymorphic forms of human histamine methyltransferase: structural, thermal and kinetic comparisons. *Structure* 9: 837-849.
7. Orosz, G., et al. 2005. Thr105Ile, a functional polymorphism of histamine N-methyltransferase, is associated with alcoholism in two independent populations. *Alcohol. Clin. Exp. Res.* 29: 303-309.
8. Rutherford, K., et al. 2008. The histamine N-methyltransferase T105I polymorphism affects active site structure and dynamics. *Biochemistry* 47: 893-901.
9. García-Martín, E., et al. 2008. Histamine-N-methyltransferase polymorphism and risk for migraine. *Headache* 48:1343-1348.

### CHROMOSOMAL LOCATION

Genetic locus: HNMT (human) mapping to 2q22.1; Hnmt (mouse) mapping to 2 A3.

### SOURCE

HNMT (D-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of HNMT 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.

Blocking peptide available for competition studies, sc-107598 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

HNMT (D-15) is recommended for detection of HNMT of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for HNMT siRNA (h): sc-94838, HNMT siRNA (m): sc-146060, HNMT shRNA Plasmid (h): sc-94838-SH, HNMT shRNA Plasmid (m): sc-146060-SH, HNMT shRNA (h) Lentiviral Particles: sc-94838-V and HNMT shRNA (m) Lentiviral Particles: sc-146060-V.

Molecular Weight of HNMT: 33 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200.

### RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

### 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](http://www.scbt.com) or our catalog for detailed protocols and support products.