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EHMT2

Reactivity: Human Mouse

Tested applications:WB

Recommended Dilution:WB 1:500 - 1:2000

Calculated MW:132kDa

Observed MW: Refer to Figures

Immunogen:

A synthetic peptide of human EHMT2

Storage Buffer:

Store at 4. Avoid freeze / thaw cycles. Buffer: PBS with 0.02% sodium azide, 50% glycerol, pH7.3.

Concentration:

f

Synonym:

BAT8;C6orf30;DKFZp686H08213;FLJ35547;G9A;KMT1C;NG36;NG36/G9a;

Catalog #:A2295

Antibody Type:

Polyclonal Antibody

Species: Rabbit

Gene ID:10919

Isotype: IgG

Swiss Prot:Q96KQ7

Purity: Affinity purification

For research use only.

Background:

G9a, also known as Euchromatic histone-lysine N-methyltransferase 2 (EHMT2), is a member of a family of histone lysine methyltransferases, each of which contains a conserved catalytic SET domain originally identified in Drosophila Su[var]3-9, Enhancer of zeste, and Trithorax proteins (1). Recombinant G9a can mono-, di- and tri-methylate histone H3 on Lys9 and Lys27 in vitro (1,2). However, in vivo G9a forms a complex with GLP, a G9a-related histone methyltransferase, and together these proteins function as the major euchromatic histone H3 Lys9 mono- and di-methyltransferases, creating transcriptionally repressive marks that facilitate gene silencing (3,4). G9a methylates itself on Lys165, a modification that regulates the association of HP1 repressor proteins with the G9a/GLP complex (5). The G9a/GLP complex also contains Wiz, a zinc finger protein that is required for G9a/GLP hetero-dimerization and complex stability (6). Wiz contains two CtBP co-repressor binding sites, which mediate the association of the G9a/GLP with the CtBP co-repressor complex (6). In addition, G9a and GLP are components of other large transcriptional co-repressor complexes, such as those involving E2F6 and CDP/cut (7-9). G9a interacts with DNMT1, and both proteins are required for methylation of DNA and histone H3 (Lys9) at replication foci, providing a functional link between histone H3 Lys9 and CpG methylation during DNA replication (10). G9a activity is critical for meiotic prophase progression, as mutant mice deficient in germ line G9a show a large loss of mature gametes (11). In addition, G9a facilitates increased global levels of di-methyl histone H3 (Lys9) during hypoxic stress and increased G9a expression is associated with hepatocelluar carcinoma (12,13).References1.Tachibana, M. et al. (2001) J Biol Chem 276, 25309-17.2.Patnaik, D. et al. (2004) J Biol Chem 279, 53248-58.3.Tachibana, M. et al. (2002) Genes Dev 16, 1779-91.4.Tachibana, M. et al. (2005) Genes Dev 19, 815-26.5.Sampath, S.C. et al. (2007) Mol Cell 27, 596-608.6.Ueda, J. et al. (2006) J Biol Chem 281, 20120-8.7.Ogawa, H. et al. (2002) Science 296, 1132-6.8.Shi, Y. et al. (2003) Nature 422, 735-8.9.Nishio, H. and Walsh, M.J. (2004) Proc Natl Acad Sci USA 101, 11257-62.10.Est

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