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MBD3 Antibody (C-term) Blocking Peptide

Synthetic peptide
Catalog # BP1038c

Specification

MBD3 Antibody (C-term) Blocking Peptide - Product Information

Primary Accession O95983

MBD3 Antibody (C-term) Blocking Peptide - Additional Information

Gene ID 53615

Other Names
Methyl-CpG-binding domain protein 3, Methyl-CpG-binding protein MBD3, MBD3

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP1038c was selected from the C-term region of human MBD3. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

MBD3 Antibody (C-term) Blocking Peptide - Protein Information

Name MBD3

Function
Acts as a component of the histone deacetylase NuRD complex which participates in the remodeling of chromatin (PubMed:16428440, PubMed:12124384, PubMed:16428440, PubMed:28977666). Acts as transcriptional repressor and plays a role in gene silencing (PubMed:10947852, PubMed:18644863). Does not bind to methylated DNA by itself (PubMed:12124384, PubMed:16428440). Binds to a lesser degree DNA containing unmethylated CpG dinucleotides (PubMed:<a

href="http://www.uniprot.org/citations/24307175" target="_blank">24307175). Recruits histone deacetylases and DNA methyltransferases.

Cellular Location
Nucleus. Chromosome. Note=Nuclear, in discrete foci. Detected on chromatin, at promoter regions of active genes

MBD3 Antibody (C-term) Blocking Peptide - Protocols

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

- Blocking Peptides

MBD3 Antibody (C-term) Blocking Peptide - Images

MBD3 Antibody (C-term) Blocking Peptide - Background

DNA methylation, or the addition of methyl groups to cytosine bases in the dinucleotide CpG, is imperative to proper development and regulates gene expression. The methylation pattern involves the enzymatic processes of methylation and demethylation. The demethylation enzyme was recently foundto be a mammalian protein, which exhibits demethylase activity associated to a methyl-CpG-binding domain (MBD). The enzyme is able to revert methylated cytosine bases to cytosines within the particular dinucleotide sequence mdCpdG by catalyzing the cleaving of the methyl group as methanol.MeCP2 and MBD1 (PCM1) are first found to repress transcription by binding specifically to methylated DNA. MBD2 and MBD4 (also known as MED1) were later found to colocalize with foci of heavily methylated satellite DNA andbelieved to mediate the biological functions of the methylation signal. Surprisingly, MBD3 does not bind methylated DNA both in vivo and in vitro. MBD1, MBD2, MBD3, and MBD4 are found to be expressed in somatic tissues, but the expression of MBD1 and MBD2 is reduced or absent in embryonic stemcells, which are known to be deficient in MeCP1 activity. MBD4 have homology to bacterial base excision repair DNA N-glycosylases/lyases. In some microsatellite unstable tumors MBD4 is mutated at an exonic polynucleotide tract.

MBD3 Antibody (C-term) Blocking Peptide - References

Bhattacharya SK, Ramchandani S, Cervoni N, Szyf. M. Nature, 397 (6720):579-583 1999.Hendrich B and Bird A. Mol Cell Biol, 18: 6538-6547(1998).Petronzelli F, Riccio A, Markham GD, Seeholzer SH, Stoerker J, Genuardi M, Yeung AT, Matsumoto Y, Bellacosa A. J Biol Chem 275 (42): 32422-32429 (2000).Bader S, Walker M, Harrison D. Br J Cancer 83(12): 1646-1649 (2000).