

MBD3 Antibody Blocking Peptide
Synthetic peptide
Catalog # BP1038a**Specification**

MBD3 Antibody Blocking Peptide - Product InformationPrimary Accession [O95983](#)**MBD3 Antibody 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 [AP1038a](/product/products/AP1038a) was selected from the 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 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](http://www.uniprot.org/citations/16428440), PubMed: [12124384](http://www.uniprot.org/citations/12124384), PubMed: [16428440](http://www.uniprot.org/citations/16428440), PubMed: [28977666](http://www.uniprot.org/citations/28977666)). Acts as transcriptional repressor and plays a role in gene silencing (PubMed: [10947852](http://www.uniprot.org/citations/10947852), PubMed: [18644863](http://www.uniprot.org/citations/18644863)). Does not bind to methylated DNA by itself (PubMed: [12124384](http://www.uniprot.org/citations/12124384), PubMed: [16428440](http://www.uniprot.org/citations/16428440)). Binds to a lesser degree DNA containing unmethylated CpG dinucleotides (PubMed: [16428440](#)).

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 Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

MBD3 Antibody Blocking Peptide - Images

MBD3 Antibody 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 found to be a mammalian protein, which exhibits demethylase activity associated to a methyl-CpG-binding domain (MBD) (1). The enzyme is able to revert methylated cytosine bases to cytosines within the particular dinucleotide sequence mCpG 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 (2). MBD2 and MBD4 (also known as MED1) were later found to colocalize with foci of heavily methylated satellite DNA and believed 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 stem cells, which are known to be deficient in MeCP1 activity. MBD4 have homology to bacterial base excision repair DNA N-glycosylases/lyases (3). In some microsatellite unstable tumors MBD4 is mutated at an exonic polynucleotide tract (4).

MBD3 Antibody 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).