10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

MBD2 Blocking Peptide (Center)

Synthetic peptide
Catalog # BP19883C

Specification

MBD2 Blocking Peptide (Center) - Product Information

Primary Accession	Q9UBB5
Other Accession	Q9Z2E1, NP_056647.1

MBD2 Blocking Peptide (Center) - Additional Information

Gene ID 8932

Other Names
Methyl-CpG-binding domain protein 2, Demethylase, DMTase, Methyl-CpG-binding protein MBD2, MBD2

Target/Specificity
The synthetic peptide sequence is selected from aa 265-279 of HUMAN MBD2

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.

MBD2 Blocking Peptide (Center) - Protein Information

Name MBD2 (HGNC:6917)

Function
Binds CpG islands in promoters where the DNA is methylated at position 5 of cytosine within CpG dinucleotides (PubMed:9774669). Binds hemimethylated DNA as well (PubMed:10947852, PubMed:24307175). Recruits histone deacetylases and DNA methyltransferases to chromatin (PubMed:10471499, PubMed:10947852). Acts as a component of the histone deacetylase NuRD complex which participates in the remodeling of chromatin (PubMed:16428440, PubMed:28977666). Acts as a transcriptional repressor and plays a role in gene silencing (PubMed:<a href="http://www.uniprot.org/citations/10471499"

target="_blank">10471499, PubMed:10947852, PubMed:16415179). Functions as a scaffold protein, targeting GATAD2A and GATAD2B to chromatin to promote repression (PubMed:16415179). May enhance the activation of some unmethylated cAMP-responsive promoters (PubMed:12665568).

Cellular Location
Nucleus. Chromosome Note=Nuclear, in discrete foci (PubMed:12183469). Detected at replication foci in late S phase. Localizes to methylated chromatin (PubMed:16428440). Localizes to sites of DNA damage in a manner partially dependent on ZMYND8 (PubMed:27732854)

Tissue Location
Highly expressed in brain, heart, kidney, stomach, testis and placenta.

MBD2 Blocking Peptide (Center) - Protocols

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

- Blocking Peptides

MBD2 Blocking Peptide (Center) - Images

MBD2 Blocking Peptide (Center) - Background

DNA methylation is the major modification of eukaryotic genomes and plays an essential role in mammalian development. Human proteins MECP2, MBD1, MBD2, MBD3, and MBD4 comprise a family of nuclear proteins related by the presence in each of a methyl-CpG binding domain (MBD). Each of these proteins, with the exception of MBD3, is capable of binding specifically to methylated DNA. MECP2, MBD1 and MBD2 can also repress transcription from methylated gene promoters. The protein encoded by this gene may function as a mediator of the biological consequences of the methylation signal. It is also reported that the this protein functions as a demethylase to activate transcription, as DNA methylation causes gene silencing.

MBD2 Blocking Peptide (Center) - References

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Guey, L.T., et al. Eur. Urol. 57(2):283-292(2010)
Hosgood, H.D. III, et al. Respir Med 103(12):1866-1870(2009)
McDonough, C.W., et al. Hum. Genet. (2009) In press :
Shen, M., et al. Environ. Mol. Mutagen. 50(4):285-290(2009)