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MBD2 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP1067A

Product Information

Application	WB, E
Primary Accession	Q9UBB5
Other Accession	Q9Z2E1
Reactivity	Human, Mouse
Predicted	Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	43255
Antigen Region	120-152

Additional Information

Gene ID	8932
Other Names	Methyl-CpG-binding domain protein 2, Demethylase, DMTase, Methyl-CpG-binding protein MBD2, MBD2
Target/Specificity	This MBD2 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 120-151 amino acids of human MBD2.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	MBD2 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

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: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.

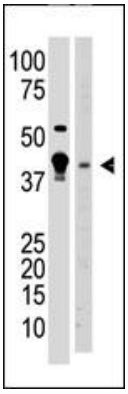
Background

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.

References

Zhu, Y., et al., Cancer 100(9):1853-1858 (2004).
Ghoshal, K., et al., J. Biol. Chem. 279(8):6783-6793 (2004).
Fujita, H., et al., Mol. Cell. Biol. 23(8):2645-2657 (2003).
Patra, S.K., et al., Biochem. Biophys. Res. Commun. 302(4):759-766 (2003).
Lembo, F., et al., Mol. Cell. Biol. 23(5):1656-1665 (2003).

Images



The anti-MBD2 N-term Antibody (Cat.#AP1067a) is used in Western blot to detect MBD2 in A375 cell lysate (lane 1) and mouse brain tissue lysate (lane 2) lysate.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.