

**MBD2 Antibody (Center)**  
**Affinity Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP19883C**

**Specification**

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**MBD2 Antibody (Center) - Product Information**

Application	IF, WB,E
Primary Accession	<a href="#">O9UBB5</a>
Other Accession	<a href="#">O9Z2E1</a> , <a href="#">NP_056647.1</a>
Reactivity	Human
Predicted	Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	43255
Antigen Region	250-279

**MBD2 Antibody (Center) - 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 250-279 amino acids from the Central region of human MBD2.

**Dilution**

IF~~1:10~50

WB~~1:1000

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

**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 (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

**MBD2 Antibody (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:[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

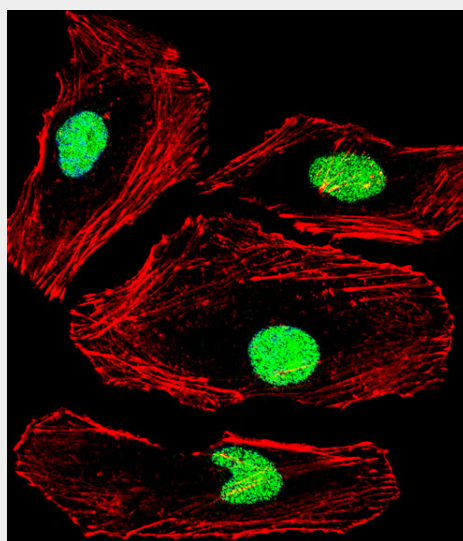
Highly expressed in brain, heart, kidney, stomach, testis and placenta.

### MBD2 Antibody (Center) - Protocols

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

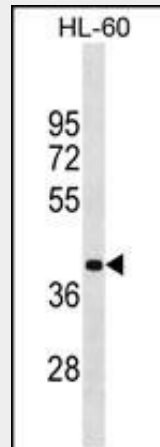
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### MBD2 Antibody (Center) - Images



Fluorescent confocal image of HeLa cell stained with MBD2 Antibody (Center)(Cat#AP19883c). HeLa cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with MBD2 primary antibody (1:25, 1 h at 37°C). For

secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37°C). Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37°C). Nuclei were counterstained with DAPI (blue) (10 µg/ml, 10 min). MBD2 immunoreactivity is localized to Nucleus significantly.



MBD2 Antibody (Center) (Cat. #AP19883c) western blot analysis in HL-60 cell line lysates (35µg/lane). This demonstrates the MBD2 antibody detected the MBD2 protein (arrow).

#### **MBD2 Antibody (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 this protein functions as a demethylase to activate transcription, as DNA methylation causes gene silencing.

#### **MBD2 Antibody (Center) - References**

- Liu, C.Y., et al. *Carcinogenesis* 31(7):1259-1263(2010)
- 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)