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

MBD1 (Clone 100B272.1) Antibody
Mouse Monoclonal Antibody
Catalog # ABV11101

Specification

MBD1 (Clone 100B272.1) Antibody - Product Information

Application	**WB**
Primary Accession	Q9UIS9
Reactivity	**Human**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**Mouse IgG1**
Calculated MW	**66607**

MBD1 (Clone 100B272.1) Antibody - Additional Information

Gene ID 4152

Positive Control	**HeLa cell lysate**
Application & Usage	**Western blot analysis (2-4 µg/ml). However, the optimal conditions should be determined individually.**

Other Names
Methyl-CpG-Binding Domain 1

Target/Specificity
MBD1

Antibody Form
Liquid

Appearance
Colorless liquid

Formulation
50 µg in 100 µl PBS containing 0.2% gelatin and 0.05% sodium azide

Handling
The antibody solution should be gently mixed before use.

Reconstitution & Storage
-20 °C

Background Descriptions

Precautions
MBD1 (Clone 100B272.1) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

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

MBD1 (Clone 100B272.1) Antibody - Protein Information

Name MBD1 (HGNC:6916)

Synonyms CXXC3, PCM1

Function
Transcriptional repressor that binds CpG islands in promoters where the DNA is methylated at position 5 of cytosine within CpG dinucleotides. Binding is abolished by the presence of 7-mG that is produced by DNA damage by methylmethanesulfonate (MMS). Acts as transcriptional repressor and plays a role in gene silencing by recruiting ATF7IP, which in turn recruits factors such as the histone methyltransferase SETDB1. Probably forms a complex with SETDB1 and ATF7IP that represses transcription and couples DNA methylation and histone 'Lys-9' trimethylation. Isoform 1 and isoform 2 can also repress transcription from unmethylated promoters.

Cellular Location
Nucleus. Nucleus matrix. Nucleus speckle Chromosome Note=Nuclear, in a punctate pattern (PubMed:12711603). Associated with euchromatic regions of the chromosomes, with pericentromeric regions on chromosome 1 and with telomeric regions from several chromosomes (PubMed:10648624, PubMed:10454587).

Tissue Location
Widely expressed..

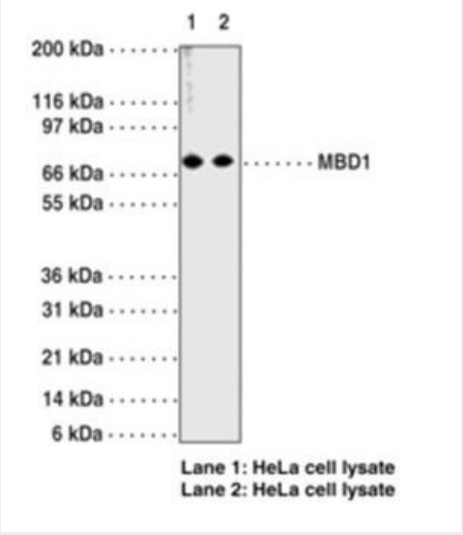
MBD1 (Clone 100B272.1) Antibody - Protocols

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

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

MBD1 (Clone 100B272.1) Antibody - Images

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



Lane1: Hela cell lysate; Lane2: Hela celllysate

MBD1 (Clone 100B272.1) Antibody - 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).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) repress transcription by binding specifically to methylated DNA. MBD2 and MBD4 (also known as MED1) co-localize with foci of heavily methylated satellite DNA and mediate the biological functions of the methylation signal. Surprisingly, MBD3 does not bind methylated DNA either in vivo and in vitro. MBD1, MBD2, MBD3, and MBD4 are 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 has homology to bacterial base excision repair DNA N-glycosylases/lyases. In some microsatellite unstable tumors MBD4 is mutated at an exonic polynucleotide tract.