

# MBD3L1 (L-15): sc-168557

## BACKGROUND

Methylation of DNA contributes to the regulation of gene transcription in both mammalian and invertebrate systems. DNA methylation requires the enzymatic activity of DNA methyltransferase and predominates on cytosine residues that are present in dinucleotide motifs consisting of a 5' cytosine followed by guanosine (CpG), which results in transcriptional repression of the methylated gene. Several proteins have been identified that associate with the methyl-CpG sites, and they include methyl-CpG binding protein-1 (MBD1), MBD2, MBD3, MBD4 and MeCP2. MBD3L1 (MBD3-like 1), also known as MBD3L, is a 194 amino acid nuclear protein that functions as a transcriptional repressor. Unlike other members of the MBD family, MBD3L1 does not bind methylated DNA. MBD3L1 is highly expressed in testis and is encoded by a gene that maps to human chromosome 19p13.2.

## REFERENCES

1. Nakao, M., et al. 2001. Regulation of transcription and chromatin by methyl-CpG binding protein MBD1. *Brain Dev.* 23 Suppl. 1: S174-S176.
2. Ballestar, E., et al. 2001. Methyl-CpG-binding proteins. Targeting specific gene repression. *Eur. J. Biochem.* 268: 1-6.
3. Jiang, C.L., et al. 2002. MBD3L1 and MBD3L2, two new proteins homologous to the methyl-CpG-binding proteins MBD2 and MBD3: characterization of MBD3L1 as a testis-specific transcriptional repressor. *Genomics* 80: 621-629.
4. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 607963. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. Goshima, N., et al. 2008. Human protein factory for converting the transcriptome into an *in vitro*-expressed proteome. *Nat. Methods.* 5: 1011-1017.
6. Defossez, P.A., et al. 2011. Biological Functions of Methyl-CpG-Binding Proteins. *Prog. Mol. Biol. Transl. Sci.* 101: 377-398.

## CHROMOSOMAL LOCATION

Genetic locus: MBD3L1 (human) mapping to 19p13.2; Mbd3l1 (mouse) mapping to 9 A2.

## SOURCE

MBD3L1 (L-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of MBD3L1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-168557 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## APPLICATIONS

MBD3L1 (L-15) is recommended for detection of MBD3L1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with MBD3L2.

Suitable for use as control antibody for MBD3L1 siRNA (h): sc-97409, MBD3L1 siRNA (m): sc-149303, MBD3L1 shRNA Plasmid (h): sc-97409-SH, MBD3L1 shRNA Plasmid (m): sc-149303-SH, MBD3L1 shRNA (h) Lentiviral Particles: sc-97409-V and MBD3L1 shRNA (m) Lentiviral Particles: sc-149303-V.

Molecular Weight of MBD3L1: 22 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.