

MBD2 binds methylcytosine in chromatin

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Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

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Literature references

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Reactome database release: 88

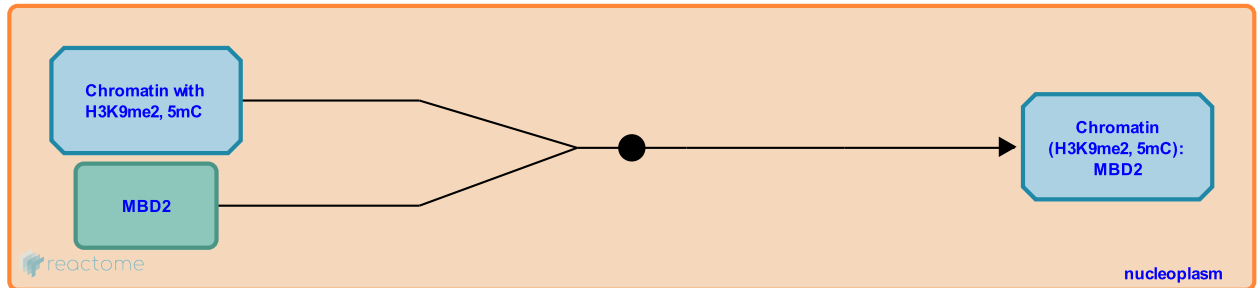
This document contains 1 reaction ([see Table of Contents](#))

MBD2 binds methylcytosine in chromatin [↗](#)

Stable identifier: R-HSA-427337

Type: binding

Compartments: nucleoplasm



Methyl Binding Domain protein 2 (MBD2) binds 5-methylcytosine residues in DNA (Ng et al. 1999) and may recruit further silencing complexes. MBD2 has been shown to specifically bind 5-methylcytosine in the promoters of rRNA gene copies to reduce promoter activity (Ghoshal et al. 2004).

Literature references

Erdjument-Bromage, H., Zhang, Y., Ng, HH., Reinberg, D., Bird, A., Turner, BM. et al. (1999). MBD2 is a transcriptional repressor belonging to the MeCP1 histone deacetylase complex. *Nat. Genet.*, 23, 58-61. [↗](#)

Majumder, S., Bai, S., Ghoshal, K., Motiwala, T., Sharma, SM., Datta, J. et al. (2004). Role of human ribosomal RNA (rRNA) promoter methylation and of methyl-CpG-binding protein MBD2 in the suppression of rRNA gene expression. *J Biol Chem*, 279, 6783-93. [↗](#)

Editions

2009-06-19	Authored, Edited	May, B.
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