PRODUCT INFORMATION

MeCP2 (human recombinant; methyl binding domain aa 77-166)

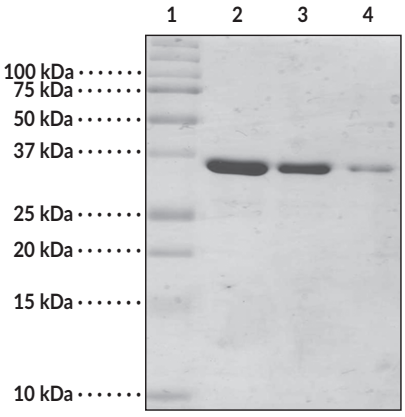
Item No. 11287

Overview and Properties

Synonym:	Methyl-CpG Binding Protein 2
Source:	Recombinant N-terminal GST-tagged protein expressed in *E. coli*
Amino Acids:	77-166 (partial protein)
Uniprot No.:	P51608
Molecular Weight:	37 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥95% estimated by SDS-PAGE
Supplied in:	50 mM Tris, pH 7.5, with 500 mM sodium chloride, 5% glycerol, and 5 mM β-mercaptoethanol
Protein Concentration:	***batch specific*** mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Image



Lane 1: MW Markers
Lane 2: MeCP2 (10 µg)
Lane 3: MeCP2 (5 µg)
Lane 4: MeCP2 (2 µg)

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Description

DNA methylation occurs mainly at the 5'-position of cytosine rings (5-methylcytosine (5mC)). The 5mC bases are found largely in genomic regions with a high frequency of cytosines and guanines, called CpG islands. Methyl-CpG binding protein 2 (MeCP2) specifically binds to methylated promoters on CpG islands and mediates gene silencing by recruiting corepressor complexes.[1] The Methyl-CpG Binding Domain (MBD) protein family consists of five members: MeCP2, MBD1, MBD2, MBD3 and MBD4.[2-4] The sequence similarity between the MBD proteins is limited to the MBD domains.[5] *In vitro* work suggests high affinity binding of MeCP2 is facilitated by DNA fragments containing A/T bases ([A/T]≥4) adjacent to the methyl-CpG.[6] Mutations in the MeCP2 gene have been linked to the X-linked neurological disorder, Rett Syndrome.[7]

References

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4. Hendrich, B. and Bird, A. Identification and characterization of a family of mammalian methyl-CpG binding proteins. *Mol. Cell. Biol.* **18(11)**, 6538-6547 (1998).
5. Berger, J. and Bird, A. Role of MBD2 in gene regulation and tumorigenesis. *Biochem. Soc. Trans.* **33**, 1537-1540 (2005).
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7. Zachariah, R.M., and Rastegar, M. Linking epigenetics to human disease and Rett Syndrome: The emerging novel and challenging concepts in MeCP2 research. *Neural Plast.* 415825 (2012).

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