

PRODUCT INFORMATION



MeCP2 (human recombinant; methyl binding domain aa 77-166)
Item No. 11287

Overview and Properties

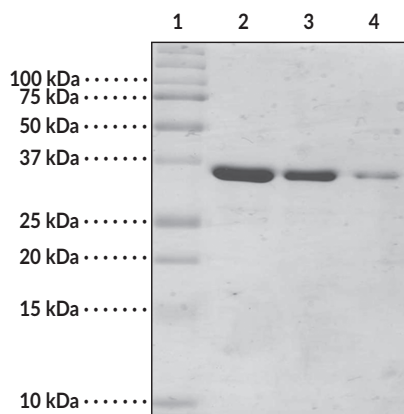
Synonym: Methyl-CpG Binding Protein 2
Source: Recombinant N-terminal GST-tagged protein expressed in *E. coli*
Amino Acids: 77-166 (partial protein)
Uniprot No.: P51608
Molecular Weight: 37 kDa
Storage: -80°C (as supplied)
Stability: ≥1 year
Purity: ≥95% estimated by SDS-PAGE
Supplied in: 50 mM Tris, 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)

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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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] \geq 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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2. Fatemi, M. and Wade, P.A. MBD family proteins: Reading the epigenetic code. *J. Cell Sci.* **119**, 3033-3037 (2006).
3. Dhasarathy, A. and Wade, P.A. The MBD protein family-reading an epigenetic mark? *Mutat. Res.* **647**(1-2), 39-43 (2008).
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).
6. Klose, R.J., Sarraf, S.A., Schmiedeberg, L., *et al.* DNA binding selectivity of MeCP2 due to a requirement for A/T sequences adjacent to methyl-CpG. *Mol. Cell* **19**(5), 667-678 (2005).
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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