Store at 4°C

#34113

MeCP2 (D4F3) XP® Rabbit mAb (PE Conjugate)

Cell Signaling TECHNOLOGY®

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New 12/17

Entrez-Gene ID #4204
UniProt ID #P51608

For Research Use Only. Not For Use In Diagnostic Procedures.

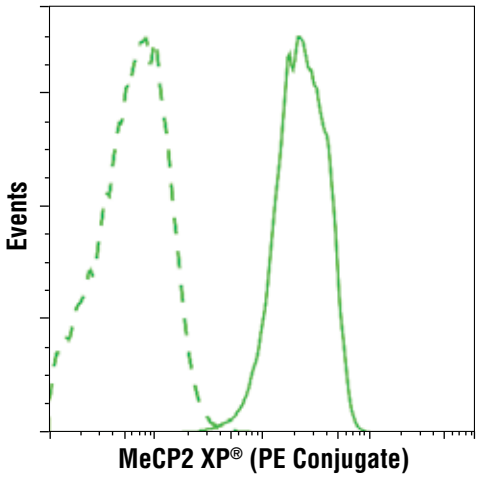
Applications	Species Cross-Reactivity*	Isotype
F Endogenous	H, M, R, Mk	Rabbit IgG

Description: This Cell Signaling Technology antibody is conjugated to phycoerythrin (PE) and tested in-house for direct flow cytometric analysis in human cells. This antibody is expected to exhibit the same species cross-reactivity as the unconjugated MeCP2 (D4F3) XP® Rabbit mAb #3456.

Background: Methyl-CpG-binding protein 2 (MeCP2) is the founding member of a family of methyl-CpG-binding domain (MBD) proteins that also includes MBD1, MBD2, MBD3, MBD4, MBD5 and MBD6 (1-3). Apart from MBD3, these proteins bind methylated cytosine residues in the context of the di-nucleotide 5´-CG-3´ to establish and maintain regions of transcriptionally inactive chromatin by recruiting a variety of co-repressor proteins (2). MeCP2 recruits histone deacetylases HDAC1 and HDAC2, and the DNA methyltransferase DNMT1 (4-6). MBD1 couples transcriptional silencing to DNA replication and interacts with the histone methyltransferases ESET and SUV39H1 (7,8). MBD2 and MBD3 co-purify as part of the NuRD (nucleosome remodeling and histone de-acetylation) co-repressor complex, which contains the chromatin remodeling ATPase Mi-2, HDAC1 and HDAC2 (9,10). MBD5 and MBD6 have recently been identified and little is known regarding their protein interactions. MBD proteins are associated with cancer and other diseases; MBD4 is best characterized for its role in DNA repair and MBD2 has been linked to intestinal cancer (11,12). Mutations in the MeCP2 gene cause the neurologic developmental disorder Rett Syndrome (13). MeCP2 protein levels are high in neurons, where it plays a critical role in multiple synaptic processes (14). In response to various physiological stimuli, MeCP2 is phosphorylated on Ser421 and regulates the expression of genes controlling dendritic patterning and spine morphogenesis (14). Disruption of this process in individuals with altered MeCP2 may cause the pathological changes seen in Rett Syndrome.

Specificity/Sensitivity: MeCP2 (D4F3) XP® Rabbit mAb (PE Conjugate) detects endogenous levels of MeCP2 (both isoforms A and B). This antibody does not cross-react with other MBD proteins.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to the carboxy terminus of human MeCP2.



Flow cytometric analysis of SH-SY5Y cells using using MeCP2 (D4F3) XP® Rabbit mAb (PE Conjugate) (solid line) or concentration-matched Rabbit (DA1E) mAb IgG XP® Isotype Control (PE Conjugate) #5742 (dashed line).

Storage: Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. *Do not aliquot the antibody. Protect from light. Do not freeze.*

***Species cross-reactivity is determined by western blot using the unconjugated antibody.**

Recommended Antibody Dilutions:

Flow Cytometry	1:50

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com.

Background References:

(1) Clouaire, T. and Stancheva, I. (2008) *Cell Mol Life Sci* 65, 1509-22.
(2) Hendrich, B. and Bird, A. (1998) *Mol Cell Biol* 18, 6538-47.
(3) Roloff, T.C. et al. (2003) *BMC Genomics* 4, 1.
(4) Nan, X. et al. (1998) *Nature* 393, 386-9.
(5) Jones, P.L. et al. (1998) *Nat Genet* 19, 187-91.
(6) Fuks, F. et al. (2003) *J Biol Chem* 278, 4035-40.
(7) Sarraf, S.A. and Stancheva, I. (2004) *Mol Cell* 15, 595-605.
(8) Fujita, N. et al. (2003) *J Biol Chem* 278, 24132-8.
(9) Zhang, Y. et al. (1999) *Genes Dev* 13, 1924-35.
(10) Wade, P.A. et al. (1999) *Nat Genet* 23, 62-6.
(11) Hendrich, B. et al. (1999) *Nature* 401, 301-4.
(12) Sansom, O.J. et al. (2003) *Nat Genet* 34, 145-7.
(13) Miltenberger-Miltenyi, G. and Laccone, F. (2003) *Hum Mutat* 22, 107-15.
(14) Zhou, Z. et al. (2006) *Neuron* 52, 255-69.

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Applications: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide **Species Cross-Reactivity:** **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—Horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.