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Phospho-MeCP2(S423) Antibody

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3693a

Product Information

Application	IHC-P-Leica, WB, E
Primary Accession	P51608
Other Accession	Q9Z2D6, Q95LG8
Reactivity	Human, Rat, Mouse
Predicted	Mouse, Monkey
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	52441

Additional Information

Gene ID	4204
Other Names	Methyl-CpG-binding protein 2, MeCp-2 protein, MeCp2, MECP2
Target/Specificity	This MeCP2 Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding S423 of human MeCP2.
Dilution	IHC-P-Leica~~1:1000 WB~~1:500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	Phospho-MeCP2(S423) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MECP2
Function	Chromosomal protein that binds to methylated DNA. It can bind specifically to a single methyl-CpG pair. It is not influenced by sequences flanking the methyl-CpGs. Mediates transcriptional repression through interaction with histone deacetylase and the corepressor SIN3A. Binds both 5-methylcytosine

	(5mC) and 5-hydroxymethylcytosine (5hmC)- containing DNA, with a preference for 5-methylcytosine (5mC).
Cellular Location	Nucleus {ECO:0000250|UniProtKB:Q9Z2D6}. Note=Colocalized with methyl-CpG in the genome. Colocalized with TBL1X to the heterochromatin foci.
Tissue Location	Present in all adult somatic tissues tested.

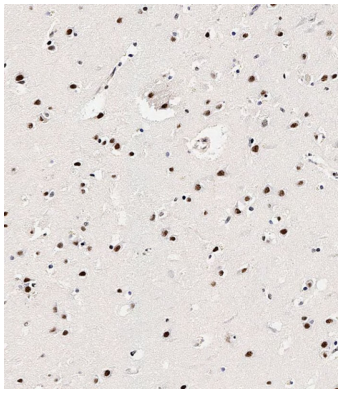
Background

DNA methylation is the major modification of eukaryotic genomes and plays an essential role in mammalian development. Human proteins MECP2, MBD1, MBD2, MBD3, and MBD4 comprise a family of nuclear proteins related by the presence in each of a methyl-CpG binding domain (MBD). Each of these proteins, with the exception of MBD3, is capable of binding specifically to methylated DNA. MECP2, MBD1 and MBD2 can also repress transcription from methylated gene promoters. In contrast to other MBD family members, MECP2 is X-linked and subject to X inactivation. MECP2 is dispensible in stem cells, but is essential for embryonic development. MECP2 gene mutations are the cause of some cases of Rett syndrome, a progressive neurologic developmental disorder and one of the most common causes of mental retardation in females.

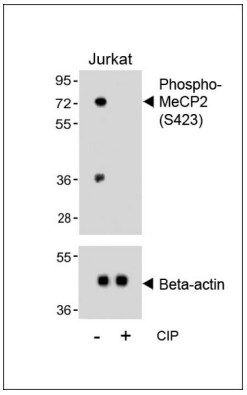
References

Mnatzakanian, G.N., et al., Nat. Genet. 36(4):339-341 (2004). Laccone, F., et al., Hum. Mutat. 23(3):234-244 (2004). Suzuki, M., et al., Oncogene 22(54):8688-8698 (2003). Balmer, D., et al., J. Mol. Med. 81(1):61-68 (2003). Hagberg, B., et al., Eur. J. Paediatr. Neurol. 7(6):417-421 (2003).

Images

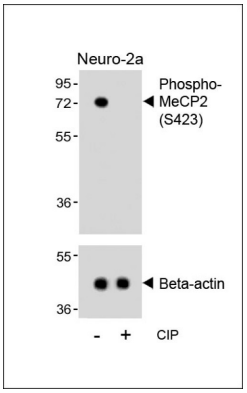


Immunohistochemical analysis of paraffin-embedded Human brain tissue using AP3693a performed on the Leica® BOND RXm. Tissue was fixed with formaldehyde at room temperature, antigen retrieval was by heat mediation with a EDTA buffer (pH9. 0). Samples were incubated with primary antibody(1:500) for 1 hours at room temperature. A undiluted biotinylated CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.



Western blot analysis of lysates from Jurkat cell line, untreated or treated with calf intestinal alkaline phosphatase(CIP), using Phospho-MeCP2(S423) Antibody(upper) or Beta-actin (lower).

Western blot analysis of lysates from Neuro-2a cell line,



untreated or treated with calf intestinal alkaline phosphatase(CIP), using Phospho-MeCP2(S423) Antibody(upper) or Beta-actin (lower).

Citations

- AD7c-NTP Impairs Adult Striatal Neurogenesis by Affecting the Biological Function of MeCP2 in APP/PSl Transgenic Mouse Model of Alzheimer's Disease
- Epigenetic regulation of osteopontin splicing isoform c defines its role as a microenvironmental factor to promote the survival of colon cancer cells from 5-FU treatment
- MeCP2-421-mediated RPE epithelial-mesenchymal transition and its relevance to the pathogenesis of proliferative vitreoretinopathy
- Alleviative effects of fluoxetine on depressive-like behaviors by epigenetic regulation of BDNF gene transcription in mouse model of post-stroke depression.
- The significance of the increased expression of phosphorylated MeCP2 in the membranes from patients with proliferative diabetic retinopathy.
- MeCP2 SUMOylation rescues Mecp2-mutant-induced behavioural deficits in a mouse model of Rett syndrome.
- Dysregulation of BDNF-TrkB signaling in developing hippocampal neurons by Pb(2+): implications for an environmental basis of neurodevelopmental disorders.
- The Rett syndrome protein MeCP2 regulates synaptic scaling.