ARG10750
anti-MeCP2 antibody [5H12]

Package: 50 µl
Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody [5H12] recognizes MeCP2
Tested Reactivity	Hu, Ms, Rat, Cow
Tested Application	ICC/IF, IHC-Fr, WB
Host	Mouse
Clonality	Monoclonal
Clone	5H12
Isotype	IgG2b
Target Name	MeCP2
Species	Human
Immunogen	Recombinant full length Human MeCP2.
Conjugation	Un-conjugated
Alternate Names	MRXSL; RS; MeCp2; Methyl-CpG-binding protein 2; MeCp-2 protein; RTT; AUTSX3; RTS; MRX79; PPMX; MRXS13; MRX16

Application Instructions

Application table

Application	Dilution
ICC/IF	1:1000 - 1:5000
IHC-Fr	1:1000 - 1:5000
WB	1:5000 - 1:10000

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Properties

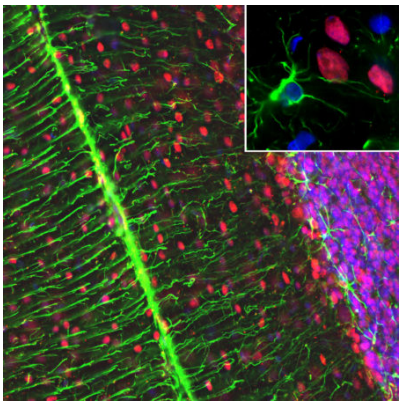
Form	Liquid
Purification	Affinity purification.
Buffer	PBS, 5 mM Sodium azide and 50% Glycerol.
Preservative	5 mM Sodium azide
Stabilizer	50% Glycerol
Concentration	1 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Gene Symbol	MECP2
Gene Full Name	methyl CpG binding protein 2
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 most cases of Rett syndrome, a progressive neurologic developmental disorder and one of the most common causes of mental retardation in females. [provided by RefSeq, Jul 2009]
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). [UniProt]
Calculated Mw	52 kDa
PTM	Phosphorylated on Ser-423 in brain upon synaptic activity, which attenuates its repressor activity and seems to regulate dendritic growth and spine maturation.

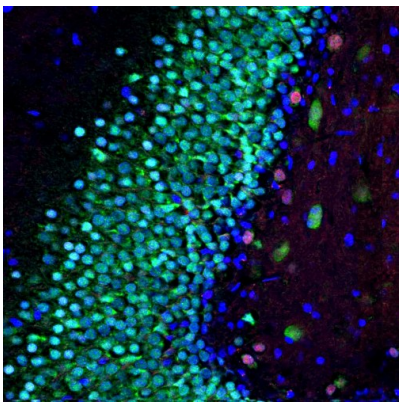
Images



ARG10750 anti-MeCP2 antibody [5H12] IHC-Fr image

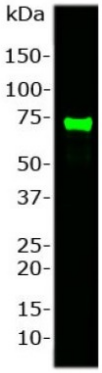
Immunohistochemistry: Frozen section of Rat cerebellum stained with ARG10750 anti-MeCP2 antibody [5H12] (red) at 1:1000 dilution and costained with ARG52312 anti-GFAP antibody (green) at 1:5000 dilution. Hoechst (blue) for nuclear staining. (Sample preparation: Following transcardial perfusion of Rat with 4% paraformaldehyde, brain was post fixed for 1 hour, cut to 45 µM, and free-floating sections were stained with the above antibodies.)

The MeCP2 antibody specifically labels nuclei of neurons, while the GFAP antibody stains the network of astroglial cells and projections of Bergmann glia.



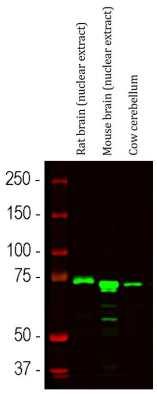
ARG10750 anti-MeCP2 antibody [5H12] IHC-Fr image

Immunohistochemistry: Frozen sections of Rat hippocampus fixed by transcardial perfusion with 4% paraformaldehyde, cut to 45 µM and stained with ARG10750 anti-MeCP2 antibody [5H12] (red). Staining for NeuN / Fox3 using our rabbit polyclonal antibody (green). The Fox3 / NeuN antibody stains neuronal nuclei and proximal cytoplasm in the granular layer while MeCP2 staining is only nuclear and, interestingly, is much stronger in certain cells. Blue shows DAPI staining of nuclear DNA.



ARG10750 anti-MeCP2 antibody [5H12] WB image

Western blot: A nuclear extract from mouse brain with ARG10750 anti-MeCP2 antibody [5H12]. This antibody recognizes a strong and clear band at 74 kDa corresponding to full length MeCP2. The calculated molecular weight of full length MeCP2 is 54 kDa, but the molecule runs on SDS-PAGE gels at 74 kDa due to the highly charged and very basic properties of the molecule.



ARG10750 anti-MeCP2 antibody [5H12] WB image

Western blot: Rat brain (nuclear), Mouse brain (nuclear) and Cow cerebellum lysates stained with ARG10750 anti-MeCP2 antibody [5H12] (green) at 1:2000 dilution.