abcam

Product datasheet

Anti-MeCP2 antibody [5H12] ab277629

2 Images

Overview

Product name	Anti-MeCP2 antibody [5H12]
Description	Mouse monoclonal [5H12] to MeCP2
Host species	Mouse
Tested applications	**Suitable for:** IHC, WB
Species reactivity	**Reacts with:** Mouse, Rat, Cow
Immunogen	Recombinant full length protein corresponding to Human MeCP2. Database link: **P51608**
Positive control	WB: Nuclear extract of rat brain, nuclear extract of mouse brain and cow cerebellum. IHC: Rat cerebellum.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.03% Sodium azide Constituents: 49.07% PBS, 50% Glycerol (glycerin, glycerine)
Purity	Protein A purified
Purification notes	Purified from Tissue Culture supernatant.
Clonality	Monoclonal
Clone number	5H12
Isotype	IgG2b

Applications

The Abpromise guarantee	Our **Abpromise guarantee** covers the use of ab277629 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
IHC		1/1000 - 1/5000. Transcardial perfusion-fixed with 4% paraformaldehyde for 1 hour, free floating sections.
WB		1/2000 - 1/10000. Predicted molecular weight: 52 kDa.

Target

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.

Tissue specificity

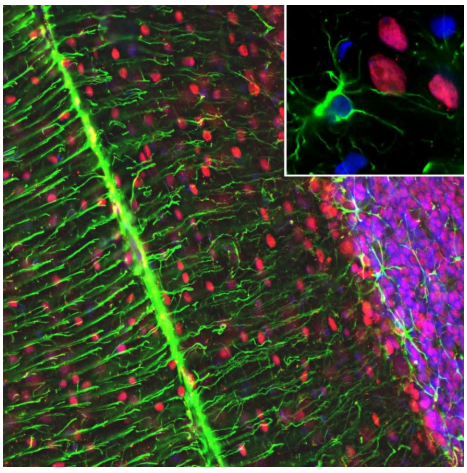
Present in all adult somatic tissues tested.

Involvement in disease

Defects in MECP2 may be a cause of Angelman syndrome (AS) [MIM:105830]; also known as happy puppet syndrome. AS is a neurodevelopmental disorder characterized by severe mental retardation, absent speech, ataxia, sociable affect and dysmorphic facial features. AS and Rett syndrome have overlapping clinical features.
Defects in MECP2 are the cause of mental retardation syndromic X-linked type 13 (MRXS13) [MIM:300055]. Mental retardation is a mental disorder characterized by significantly sub-average general intellectual functioning associated with impairments in adaptative behavior and manifested during the developmental period. MRXS13 patients manifest mental retardation associated with other variable features such as spasticity, episodes of manic depressive psychosis, increased tone and macroorchidism.
Defects in MECP2 are the cause of Rett syndrome (RTT) [MIM:312750]. RTT is an X-linked dominant disease, it is a progressive neurologic developmental disorder and one of the most common causes of mental retardation in females. Patients appear to develop normally until 6 to 18 months of age, then gradually lose speech and purposeful hand movements and develop microcephaly, seizures, autism, ataxia, intermittent hyperventilation, and stereotypic hand movements. After initial regression, the condition stabilizes and patients usually survive into adulthood.
Defects in MECP2 may be the cause of susceptibility autism X-linked type 3 (AUTSX3) [MIM:300496]. AUTSX3 is a pervasive developmental disorder (PDD), prototypically characterized by impairments in reciprocal social interaction and communication, restricted and stereotyped patterns of interests and activities, and the presence of developmental abnormalities by 3 years of age.
Defects in MECP2 are the cause of encephalopathy neonatal severe due to MECP2 mutations (ENS-MECP2) [MIM:300673]. Note=The MECP2 gene is mutated in Rett syndrome, a severe neurodevelopmental disorder that almost always occurs in females. Although it was first thought that MECP2 mutations causing Rett syndrome were lethal in males, later reports identified a severe neonatal encephalopathy in surviving male sibs of patients with Rett syndrome. Additional reports have confirmed a severe phenotype in males with Rett syndrome-associated MECP2 mutations.
Defects in MECP2 are the cause of mental retardation syndromic X-linked Lubs type (MRXSL) [MIM:300260]. Mental retardation is characterized by significantly below average general intellectual functioning associated with impairments in adaptative behavior and manifested during the developmental period. MRXSL patients manifest mental retardation associated with variable features. They include swallowing dysfunction and gastroesophageal reflux with secondary recurrent respiratory infections, hypotonia, mild myopathy and characteristic facies such as

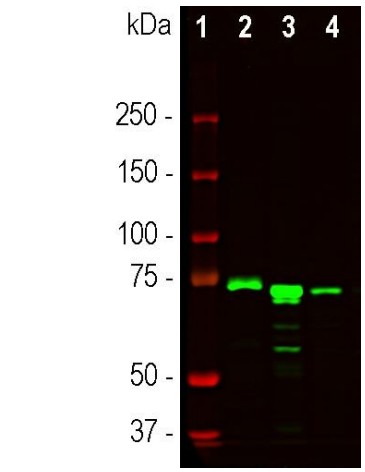
	downslanting palpebral fissures, hypertelorism and a short nose with a low nasal bridge. Note=Increased dosage of MECP2 due to gene duplication appears to be responsible for the mental retardation phenotype.
Sequence similarities	Contains 2 A.T hook DNA-binding domains. Contains 1 MBD (methyl-CpG-binding) domain.
Post-translational modifications	Phosphorylated on Ser-423 in brain upon synaptic activity, which attenuates its repressor activity and seems to regulate dendritic growth and spine maturation.
Cellular localization	Nucleus. Colocalized with methyl-CpG in the genome.

Images



Immunohistochemistry - Anti-MeCP2 antibody [5H12] (ab277629)

Perfusion-fixed, free floating sections of rat cerebellum section stained for MeCP2 using ab277629 (red) at 1/1000 dilution, and counterstained with rabbit pAb to GFAP (green) at 1/5000 dilution in immunohistochemical analysis. The blue Hoechst is staining nuclear DNA. ab277629 specifically labels nuclei of neurons, while the GFAP antibody stains the network of astroglial cells and projections of Bergmann glia.



Western blot - Anti-MeCP2 antibody [5H12] (ab277629)

Lanes 2-4 : Anti-MeCP2 antibody [5H12] (ab277629) at 1/2000 dilution

Lane 1 : Molecular weight ladder
Lane 2 : nuclear extract of rat brain
Lane 3 : nuclear extract of mouse brain
Lane 4 : cow cerebellum

Predicted band size: 52 kDa

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