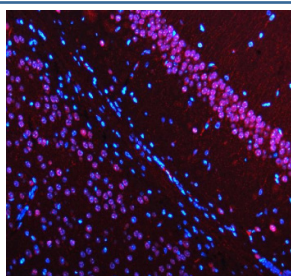


MECP2 Antibody / Methyl-CpG-binding protein 2 (FY13265)

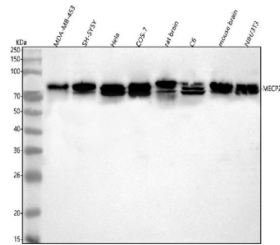
Catalog No.	Formulation	Size
FY13265	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

[Bulk quote request](#)

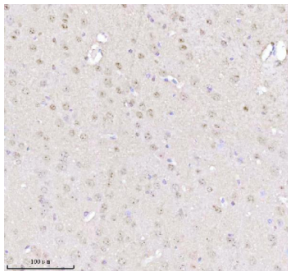
Availability	1-2 days
Species Reactivity	Human, Monkey, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
UniProt	P51608
Localization	Nuclear
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry : 2-5ug/ml Immunofluorescence : 5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This MECP2 antibody is available for research use only.



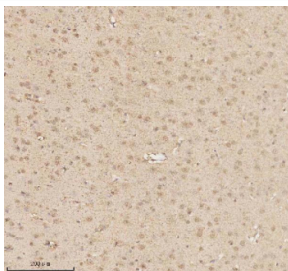
Immunofluorescent staining of MECP2 using anti-MECP2 antibody (red). MECP2 was detected in a paraffin-embedded section of mouse brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 5 ug/ml rabbit anti-MECP2 antibody overnight at 40C. Cy3 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



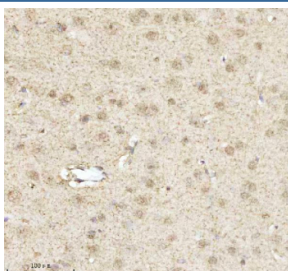
Western blot analysis of MECP2 using anti-MECP2 antibody. Lane 1: human MDA-MB-453 whole cell lysates, Lane 2: human SH-SY5Y whole cell lysates, Lane 3: human Hela whole cell lysates, Lane 4: monkey COS-7 whole cell lysates, Lane 5: rat brain tissue lysates, Lane 6: rat C6 whole cell lysates, Lane 7: mouse brain tissue lysates, Lane 8: mouse NIH/3T3 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-MECP2 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. A predominant doublet is detected at an approximately 70-75 kDa in all neural enriched samples, running well above the predicted ~52 kDa mass but consistent with the anomalously slow migration reported for full length MeCP2, which is heavily post translationally modified and often observed at ~75 kDa in the literature.



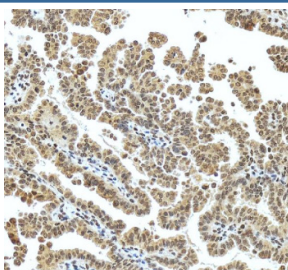
Immunohistochemical staining of MECP2 using anti-MECP2 antibody. MECP2 was detected in a paraffin-embedded section of mouse brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-MECP2 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



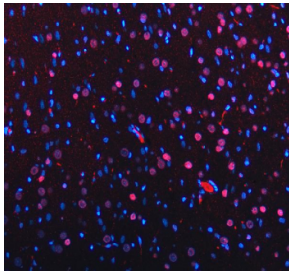
Immunohistochemical staining of MECP2 using anti-MECP2 antibody. MECP2 was detected in a paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-MECP2 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



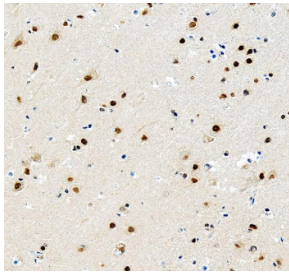
Immunohistochemical staining of MECP2 using anti-MECP2 antibody. MECP2 was detected in a paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-MECP2 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



Immunohistochemical staining of MECP2 using anti-MECP2 antibody. MECP2 was detected in a paraffin-embedded section of human ovarian cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-MECP2 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



Immunofluorescent staining of MECP2 using anti-MECP2 antibody. MECP2 was detected in a paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 5 ug/ml rabbit anti-MECP2 antibody overnight at 4oC. Cy3 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Immunohistochemical staining of MECP2 using anti-MECP2 antibody. MECP2 was detected in a paraffin-embedded section of human brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-MECP2 antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.

Description

MECP2 antibody detects Methyl-CpG-binding protein 2, a nuclear chromatin-associated protein that binds methylated DNA and regulates gene expression. The UniProt recommended name is Methyl-CpG-binding protein 2 (MECP2). This transcriptional regulator modulates chromatin compaction and transcriptional repression through its interactions with methylated CpG sites and chromatin remodeling complexes.

Functionally, MECP2 antibody identifies a 486-amino-acid protein composed of a methyl-CpG-binding domain (MBD) and a transcriptional repression domain (TRD). MECP2 binds selectively to methylated DNA sequences and recruits co-repressors such as SIN3A and histone deacetylases (HDACs), leading to histone deacetylation and chromatin condensation. It also regulates non-coding RNA transcription, alternative splicing, and higher-order chromatin organization. MECP2 plays a critical role in neuronal maturation, synaptic development, and activity-dependent gene regulation.

The MECP2 gene is located on chromosome Xq28 and is expressed ubiquitously, but at especially high levels in neurons. Expression is dynamically regulated during postnatal brain development, paralleling synaptogenesis. In neurons, MECP2 controls transcriptional homeostasis by balancing activation and repression of large gene networks essential for synaptic plasticity and neuronal connectivity.

Pathologically, mutations in MECP2 cause Rett syndrome, a severe neurodevelopmental disorder characterized by regression of motor and cognitive abilities in early childhood. Different mutation types (missense, nonsense, deletions) disrupt DNA binding or repressor recruitment, leading to widespread transcriptional dysregulation. Altered MECP2 expression is also implicated in autism spectrum disorder and certain cancers. Research using MECP2 antibody supports studies in epigenetic regulation, neurodevelopment, and chromatin biology.

MECP2 antibody is validated for western blotting, immunofluorescence, and chromatin immunoprecipitation to detect methyl-DNA-binding proteins. NSJ Bioreagents provides MECP2 antibody reagents optimized for studies in transcriptional repression, synaptic regulation, and neuroepigenetics.

Structurally, Methyl-CpG-binding protein 2 contains an MBD that recognizes methylated CpG dinucleotides, a TRD that interacts with SIN3A-HDAC complexes, and a C-terminal domain that binds nucleosomes. This structural modularity allows MECP2 to act as a chromatin architectural protein coordinating DNA methylation and transcriptional silencing. This antibody enables detailed analysis of MECP2's role in gene regulation and neurological disease mechanisms.

Application Notes

Optimal dilution of the MECP2 antibody should be determined by the researcher.

Immunogen

E.coli-derived human MECP2 recombinant protein (Position: K36-Q437) was used as the immunogen for the MECP2 antibody.

Storage

After reconstitution, the MECP2 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.