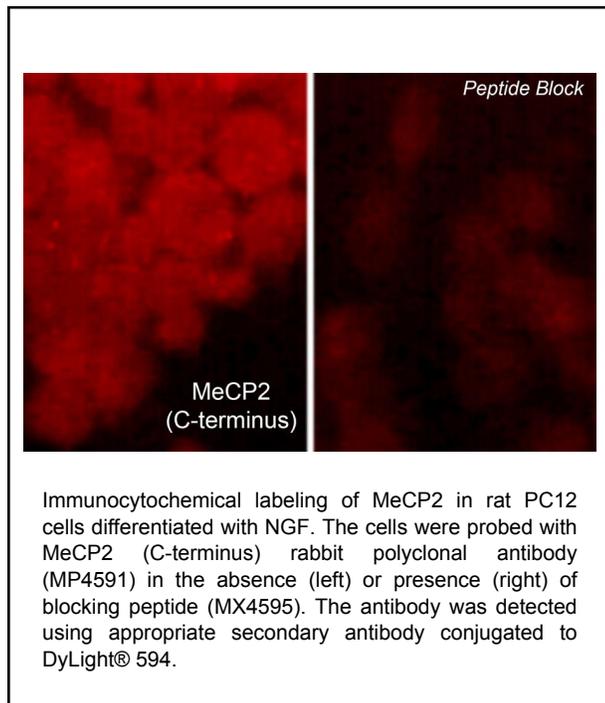


Background

Methyl-CpG Binding Protein 2 (MeCP2) was identified based on its affinity for methylated cytosines within DNA. As a chromatin-associated multifunctional protein, MeCP2 has been implicated in regulation of transcription and chromatin structure. Mutations of MeCP2 cause Rett syndrome, which results from neuronal dysfunction and impairment in cognitive and motor functions. Regulation of MeCP2 activity may involve phosphorylation at multiple sites. Ser-421 in MeCP2 is phosphorylated in response to neuronal activity, calcium influx, and is dependent on Cam-KII. Alanine mutation of Ser-421 leads to defects in synapse development and activity. Ser-80 in MeCP2 is phosphorylated in HeLa nuclear extracts and neurons. Alanine mutation of Ser-80 attenuates MeCP2 chromatin association and leads to locomotor deficits in transgenic knock-in mice. Thus, phosphorylation of MeCP2 may be important for altering its function during neuronal activity.

Background References

Lewis, J.D. et al. (1992). Cell 69:905.
Tao, J. et al. (2009) PNAS 106(12):4882.
Cohen, S. et al. (2011) Neuron 72:72.



Applications

Blocking 1:1000
ELISA 50 ng/well

End user should determine optimal dilution for their particular applications and experiments.
Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

Specificity

The peptide is specifically recognized by anti-MeCP2 (C-terminus) antibody (MP4591) in ELISA, and has been shown to block the reactivity of MP4591 during Western blot. In addition, the peptide is recommended for use in blocking MP4591 reactivity in immunocytochemistry.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

Peptide Sequence

MeCP2 synthetic peptide corresponding to amino acid residues at the C-terminus of mouse MeCP2. This peptide sequence is highly conserved in rat and human MeCP2, and has low homology to other nuclear proteins.

Buffer and Storage

Blocking Peptide is supplied in 50µl phosphate-buffered saline and 0.05% sodium azide.
Store at -20°C. Stable for 1 year.

Related Products

MP4591 MeCP2 (C-terminus) Rabbit Polyclonal
MP4601 MeCP2 (Ser-80), phospho-specific Rabbit Polyclonal
MP4611 MeCP2 (Ser-421), phospho-specific Rabbit Polyclonal
MK6660 MeCP2 Phospho-Regulation Antibody Sampler Kit
MX4605 phospho-MeCP2 (Ser-80) Blocking Peptide

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