

Phospho-CRMP-2 (Thr514) Antibody



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| Applications: | Reactivity: | Sensitivity: | MW (kDa): | Source/Isotype: | UniProt ID: | Entrez-Gene Id: |
|---------------|-------------|--------------|-----------|-----------------|-------------|-----------------|
| W | H M R | Endogenous | 60-80 | Rabbit | #Q16555 | 1808 |

Product Usage Information

Application

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Phospho-CRMP-2 (Thr514) Antibody detects endogenous levels of CRMP-2 only when phosphorylated at Thr514.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide surrounding Thr514 of human CRMP-2. Antibodies are purified by peptide affinity chromatography.

Background

Collapsin Response Mediator Protein-2 (CRMP-2) is expressed at high levels in the developing nervous system and plays a critical role in axonal outgrowth by specifying axon/dendrite fate and establishing neuronal polarity (1,2). CRMP-2 enhances axon elongation and branching by binding to tubulin heterodimers to promote microtubule assembly (3). GSK-3β inactivates CRMP-2 by phosphorylating it at Thr514. CRMP-2 is primed following phosphorylation at Ser522 by CDK5 and at Thr518 by GSK-3β (2). Phosphorylation of CRMP-2, which decreases tubulin binding ability, can be inhibited by NT-3 and BDNF through the PI3 kinase/Akt pathway (2). CRMP-2 also mediates semaphorin-induced growth cone collapse (4). Hyperphosphorylation of CRMP-2 is found in Alzheimer disease plaques with concurrent elevated GSK-3β activity in these patients (5).

Background References

1. Gu, Y. and Ihara, Y. (2000) *J Biol Chem* 275, 17917-20.
2. Yoshimura, T. et al. (2005) *Cell* 120, 137-49.
3. Fukata, Y. et al. (2002) *Nat Cell Biol* 4, 583-91.
4. Goshima, Y. et al. (1995) *Nature* 376, 509-14.
5. Cole, A.R. et al. (2004) *J Biol Chem* 279, 50176-80.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat

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