

CRMP2 Phospho-Regulation Antibody Sampler Kit

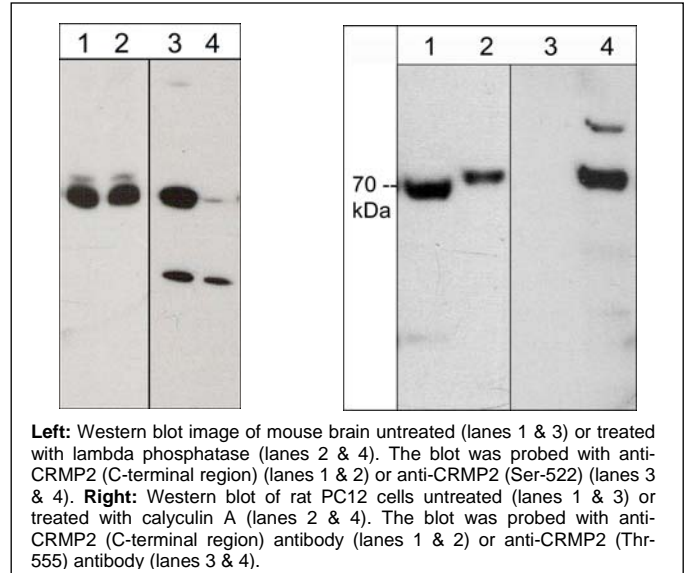
Catalog # CK6200

Kit Summary:

The CRMP2 phospho-regulation antibody sampler kit can be used to detect the level of CRMP2 phosphorylation at Ser-522 and Thr-555 relative to the total expression level of CRMP2. The kit also includes peptides for antibody blocking experiments.

Background:

CRMP2 (CRMP-62, TOAD-64, DRP-2) is a microtubule associated protein involved in neuron development and axon pathfinding. CRMP2 binds to tubulin heterodimers and promotes microtubule assembly. The overexpression of CRMP2 facilitates the rate of axonal growth, whereas the mutated form that lacks activity toward the microtubule assembly inhibits axonal growth in a dominant negative manner. Phosphorylation of CRMP2 regulates its activity and this type of regulation has been implicated in axon growth cone collapse induced by several repulsive cues. Cdk5 and GSK3 phosphorylation occurs downstream of the repulsive cue, Sema-3A. Several residues in CRMP2 are phosphorylated by GSK3 (Ser-518, Thr-514, and Thr-509), and a priming site (Ser-522). These sites are conserved in human CRMP1 and CRMP4, but not in CRMP3 or CRMP5. The priming site is also phosphorylated by Cdk5. In contrast, ROCK phosphorylates Thr-555 leading to LPA, MAG, or Ephrin-A5 mediated growth cone collapse. Thus, CRMP2 phosphorylation status may be a critical element of pathways that control axon pathfinding.



Background References:

- Arimura, N. et al. (2000) J. Biol. Chem. 275(31):23973
- Arimura, N. et al. (2005) Mol. Cell. Biol. 25(22):9973.
- Uchida, Y. et al. (2005) Genes to Cells 10:165.
- Cole, A.R. et al. (2006) J. Biol. Chem. 281(24):16591.
- Mimura, F. et al. (2006) J. Biol. Chem. 281(23):15970.

Kit Components:

Catalog#	Description	Type	Size	Applications	Species Reactivity	MW (kDa)
CP2161	CRMP2 (C-terminal region)	Rabbit pAb	50 µl	WB, E, ICC	H, R, M	70
CP2191	CRMP2 (Ser-522), phospho-specific	Rabbit pAb	50 µl	WB, E	H, R, M	70
CP2251	CRMP2 (Thr-555), phospho-specific	Rabbit pAb	50 µl	WB, E, ICC	H, R, M	70
CX2165	CRMP2 (C-terminal region)	Peptide	50µg	AB, E		
CX2195	phospho-CRMP2 (Ser-522)	Peptide	50µg	AB, E		
CX2255	phospho-CRMP2 (Thr-555)	Peptide	50µg	AB, E		

Applications: WB = Western blot, E = ELISA, AB = Antibody Blocking. Species: H = Human, R = Rat, M = Mouse.

Buffers and Storage:

Rabbit polyclonal, affinity-purified antibodies are each supplied in phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

Blocking Peptides are supplied in phosphate-buffered saline and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

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