



PhosphoSolutions®
Antibodies that work™

Colorado Biosciences Park
12635 East Montview Boulevard, #213
Aurora, CO 80045-7337
Tel: (888) 442-7100

Anti-Phospho-Ser⁸⁹² GABA_B Receptor, R2-Subunit

Catalog Number: p1148-892

Size: 100 µl

Product Description: Affinity purified rabbit polyclonal antibody

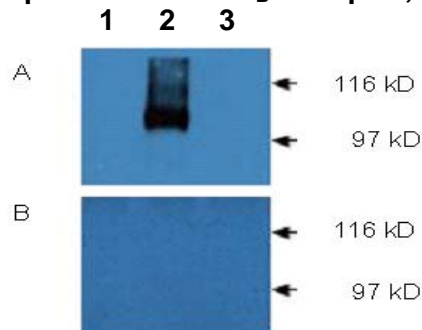
Applications: **WB:** 1:1000
IF: 1:100 - 250 (Couve et al., 2002)

Antigen: Phosphopeptide corresponding to amino acid residues surrounding the phospho-Ser⁸⁹² of the GABA_B receptor, R2-subunit.

Species reactivity: The antibody has been directly tested for reactivity in Western blots with rat tissue. It is anticipated that the antibody will react with bovine, canine, chicken, human, mouse, non-human primates, *Xenopus* and zebra fish based on the fact that these species have 100% homology with the amino acid sequence used as antigen.

Biological Significance: Gamma-aminobutyric acid (GABA) is the primary inhibitory neurotransmitter in the central nervous system. There are two major classes of GABA receptors the GABA_A and the GABA_B subtype of receptors. GABA_B receptors are heterodimeric G protein-coupled receptors that mediate slow synaptic inhibition in the central nervous system. Moss and colleagues (Couve, *et al.*, 2002) recently demonstrated that the functional coupling of GABA_B R1/GABA_B R2 receptors to inwardly rectifying K⁺ channels rapidly desensitizes. This effect is alleviated after direct phosphorylation of a single serine residue (Ser⁸⁹²) in the cyto-plasmic tail of GABA_B R2 by cyclic AMP (cAMP)-dependent protein kinase (PKA). In addition to its postsynaptic effects GABA_B receptors localized to the presynaptic region have been reported to restrict the availability of synaptic vesicles for release (Sakaba and Neher, 2003).

Anti-Phospho Ser⁸⁹² GABA_B Receptor, R2 Subunit



Western blots of (A) Cos-7 cells transiently expressing GABA_BR2S892A (lane 1), wild type GABA_BR2 (lane 2) or control untransfected cells (lane 3). Blots were then immunolabeled with Rabbit Anti-Phospho Ser⁸⁹² (**Figure A**). In **Figure B** the membrane was pre-treated with λ-Ptase (1200 units for 30 min) before being exposed to the anti-Ser⁸⁹² GABA_B receptor, R2-subunit antibody.

WB = Western Blot **IF** = Immunofluorescence **IHC** = Immunohistochemistry **IP** = Immunoprecipitation

Packaging: 100 µl in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg BSA per ml and 50% glycerol. Adequate amount of material to conduct 10-mini Western Blots.

Storage and Stability. For long term storage -20°C is recommended. Stable at -20°C for at least 1 year.

Shipment: Domestic - Blue Ice; International - Blue Ice or Dry Ice.

Purification Method: Prepared from rabbit serum by affinity purification via sequential chromatography on phospho- and dephosphopeptide affinity columns.

Antibody Specificity: Specific for the ~110k GABA_B receptor, R2-subunit protein phosphorylated at Ser⁸⁹².

Quality Control Tests: Western blots performed on each lot.

References:

Couve A, Thomas P, Calver AR, Hirst WD, Pangalos MN, Walsh FS, Smart TG, Moss SJ (2002) Cyclic AMP-dependent protein kinase phosphorylation facilitates GABA_B receptor-effector coupling. *Nat Neurosci* 5:415-424.
Sakaba T, Neher E (2003) Direct modulation of synaptic vesicle priming by GABA_B receptor activation at a glutamatergic synapse. *Nature (London)* 424:775-778.

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