Anti-Phospho-Ser^{892} GABA$_B$ Receptor, R2-Subunit

Catalog Number: SY- p1148-892 **Size:** 100 µl $375.00

Product Description: Affinity purified rabbit polyclonal antibody

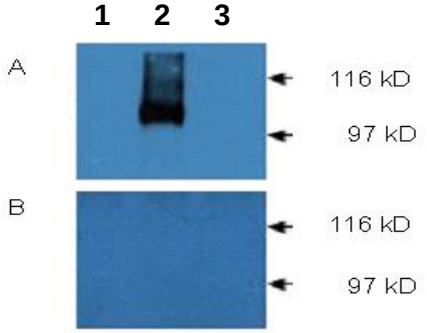
Applications: **WB**: 1:1000
IF: 1:100 - 250 (Couve et al., 2002)

Antigen: Phosphopeptide corresponding to amino acid residues surrounding the phospho-Ser^{892} 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 (Ser^{892}) in the cyto-plasmic tail of GABA$_B$ R2 by cyclic AMP (cAMP)-dependent protein kinase (PKA). In addition to it's 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 Ser^{892} GABA$_B$ Receptor, R2 Subunit



Western blots of (A) Cos-7 cells transiently expressing GABA$_B$R2S892A (lane 1), wild type GABA$_B$R2 (lane 2) or control untransfected cells (lane 3). Blots were then immunolabeled with Rabbit Anti-Phospho Ser^{892} **(Figure A)**. In **Figure B** the membrane was pre-treated with λ-Ptase (1200 units for 30 min) before being exposed to the anti-Ser^{892} GABA$_B$ receptor, R2-subunit antibody.

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 Ser^{892}.

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 – Dry Ice.

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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