Anti-Phospho-Ser^{41} Gap-43

Catalog Number: SY-p1150-41 **Size:** 100 µl $375.00

Product Description: Affinity purified rabbit polyclonal antibody

Applications: **WB**: 1:1000

Antigen: Phosphopeptide corresponding to amino acid residues surrounding the phospho-Ser^{41} of Gap-43.

Specificity: 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, finch, 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: Gap-43 is thought to have an important role in development and plasticity because it is expressed at high levels in neuronal growth cones during development and during axonal regeneration (Benowitz and Routtenberg, 1997). There is also evidence from knockout animals that Gap-43 serves to amplify pathfinding signals from the growth cone (Strittmatter et al., 1995). Gap-43 is thought to mediate at least some of these effects via interaction with actin. Importantly, phosphorylation at Ser^{41} by protein kinase C (Catalog No. 1609-PKC) modulates the interaction of Gap-43 with actin (He et al., 1997) and may also affect neurotransmitter release during forms of plasticity like LTP (Hulo et al., 2002).

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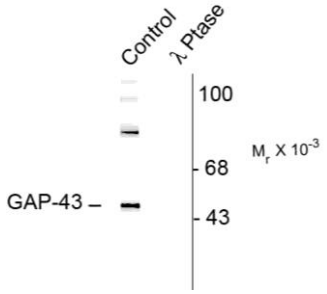

Western blot of rat cortex lysate showing specific immunolabeling of the ~50k Gap-43 protein phosphorylated at Ser^{41} (Control). The phosphospecificity of this labeling is shown in the second lane (*lambda*-phosphatase: λ-Ptase). The blot is identical to the control except that it was incubated in λ-Ptase (1200 units for 30 min) before being exposed to the GAP-43 Ser^{41} antibody. The immunolabeling of GAP-43 is completely eliminated by treatment with λ-Ptase.

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.

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

Antibody Specificity: Specific for the ~50k Gap-43 protein phosphorylated at Ser^{41}. In some tissues the antibody also recognizes a higher molecular weight protein that is also recognized by the pan Gap-43 antibody, that may be a Gap-43 aggregate or oligomer. Immunolableing is blocked by the phosphopeptide used as antigen but not by the corresponding dephosphopeptide. Immunolabeling is completely eliminated by treatment with λ-Ptase.

Quality Control Tests: Western blots performed on each lot.

References:

Benowitz LI, Routtenberg A (1997) Gap-43: An intrinsic determinant of neuronal development and plasticit. Trends Neurosci 20:84-91.

He, Q, Dent, EW, Meiri, KF (1997) Modulation of actin filament behavior by Gap-43 (neuromodulin) is dependent on the phosphorylation status of serine 41, the protein kinase C site. J Neurosci 17:3515-3524.

Hulo S, Alberi, S, Laux T, Muller D, Caroni P (2002) A point mutant of Gap-43 induces enhanced short-term and long-term hippocampal plasticity. Eur J Neurosci 15:1976-1982.

Strittmatter SM, Fankhauser C, Huang PL, Mashimo H, Fishman MC (1995) Neuronal path finding is abnormal in mice lacking the neuronal growth cone protein Gap-43," Cell 80:445-452.

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