Phospho-GAP-43 (S41) Antibody

Antigen Affinity-purified Polyclonal Rabbit IgG

Catalog Number: PPS006

DESCRIPTION

Species Reactivity	Human/Mouse/Rat/Bovine/Canine/Chicken/Primate/*Xenopus*/Zebrafish
Specificity	Specific for the ~50 kDa GAP-43 protein phosphorylated at S41 in Western blots. In some tissues the antibody also recognizes a higher molecular weight protein, that is also recognized by the Pan GAP-43 antibody. This may be a GAP-43 aggregate or oligomer.
Source	Polyclonal Rabbit IgG
Purification	Antigen Affinity-purified
Immunogen	Phosphopeptide corresponding to amino acid residues surrounding the phospho-S41 of GAP-43
Formulation	100 µL in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg/mL BSA and 50% glycerol. See Certificate of Analysis for details.

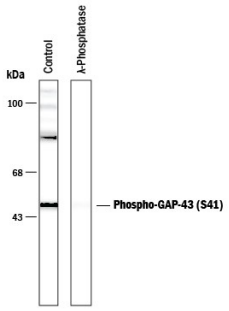
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1:1000 dilution	See Below

DATA

Western Blot



Detection of Phospho-GAP-43 (S41) by Western blot. Western blot of rat cortex lysate showing specific immunolabeling of the ~50 kDa GAP-43 protein phosphorylated at S41 (Control). The phosphospecificity of this labeling is demonstrated by treatment with 1200 U of λ Phosphatase (λ-PPase) for 30 minutes before being exposed to the Anti-Phospho-GAP-43 (S41). The immunolabeling is completely eliminated by treatment with λ-PPase.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	For long-term storage, ≤ -20° C is recommended. Product is stable at ≤ -20° C for at least 1 year.

BACKGROUND

GAP-43 (Growth Associated Protein 43 kDa), also known as Neuromodulin, is a 24 kDa, neuron growth cone-associated member of the neuromodulin family. Apparently due to its tertiary structure, it runs anomalously at 43 kDa on SDS-polyacrylamide gel. Rat GAP-43 is a 226 amino acid (aa) protein that contains an N-terminal lipid binding motif, an 11 aa IQ domain (IQ:Ile-Gln-X-Ser-etc) (aa 38 - 48), and a C-terminus with four potential serine phosphorylation sites. The molecule may utilize the IQ domain to bind calmodulin. Protein kinase C-mediated phosphorylation of the Serine at 41 within this site inhibits this interaction. Unphosphorylated, calmodulin-bound GAP-43 is always associated with neurite retraction, while S41 phosphorylated GAP-43 stabilizes actin filaments and promotes growth cone extension.

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