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Phospho-Ser58 14-3-3 Protein Antibody

Affinity purified rabbit polyclonal antibody
Catalog # AN1079

Specification

Phospho-Ser58 14-3-3 Protein Antibody - Product Information

Application	**WB, IF**
Primary Accession	P35213
Reactivity	**Human, Rat**
Predicted	**Bovine, Chicken, Mouse, Monkey, Xenopus, Zebrafish**
Host	**Rabbit**
Clonality	**polyclonal**
Calculated MW	**29 KDa**

Phospho-Ser58 14-3-3 Protein Antibody - Additional Information

Gene ID	**56011**
Gene Name	**YWHAB**

Other Names
14-3-3 protein beta/alpha, Prepronerve growth factor RNH-1, Protein kinase C inhibitor protein 1, KCIP-1, 14-3-3 protein beta/alpha, N-terminally processed, Ywhab

Target/Specificity
Synthetic phospho-peptide corresponding to amino acid residues surrounding Ser58 conjugated to KLH.

Dilution
WB~~ 1:1000
IF~~ 1:500

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

Antibody Specificity
Specific for the ~29k 14-3-3 protein phosphorylated at Ser58. Immunolabeling is blocked by the phosphopeptide used as antigen but not by the corresponding dephosphopeptide.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Phospho-Ser58 14-3-3 Protein Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Shipping
Blue Ice

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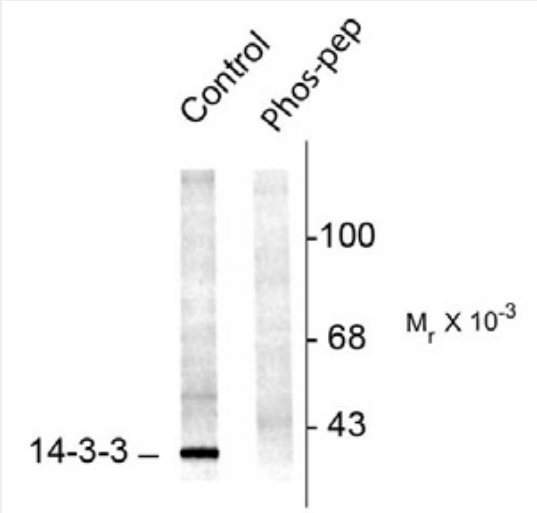
Phospho-Ser58 14-3-3 Protein Antibody - Protocols

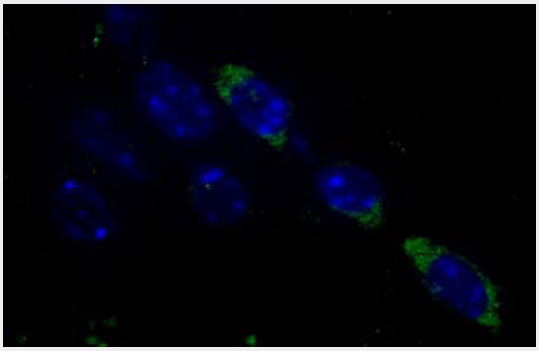
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Phospho-Ser58 14-3-3 Protein Antibody - Images



Western blot of rat brainstem lysate showing specific immuno-labeling of the ~29k 14-3-3 protein phosphorylated at Ser58 (Control). The immunolabeling is blocked by the phosphopeptide used as the antigen (Phos-pep) but not by the corresponding dephosphopeptide (not shown).



Immunofluorescence of 21d mouse brain cryosections showing specific staining of the 14-3-3 protein when phosphorylated at Ser58 in green and DNA in blue.

Phospho-Ser58 14-3-3 Protein Antibody - Background

14-3-3 proteins are a family of highly conserved proteins that appear to have multiple roles in cell signaling (Bridges and Moorhead, 2005). The proteins are abundantly expressed in the brain and have been detected in the cerebrospinal fluid of patients with different neurological disorders (Berg

et al., 2003). 14-3-3 proteins bind protein ligands that are typically phosphorylated on serine or threonine residues and regulate the functions of these binding partners by a number of different mechanisms (Silhan et al., 2004; Dougherty and Morrison, 2004). The14-3-3 proteins affect a diverse array of cellular processes including the cell cycle and transcription, signal transduction and intracellular trafficking. These functions of 14-3-3 proteins are facilitated by, if not dependent on, its dimeric structure. Recent work has demonstrated that the dimeric status of the 14-3-3 protein is regulated by site-specific serine phosphorylation (Woodcock et al., 2003).

Phospho-Ser58 14-3-3 Protein Antibody - References

Berg D, Holzmann C, Riess O (2003) 14-3-3 Proteins in the nervous system. Nat Rev Neurosci 4:752-762.
Bridges D, Moorhead GB (2005) 14-3-3 Proteins: a number of functions for a numbered protein. Sci STKE 2005:re10.
Dougherty MK, Morrison DK (2004) Unlocking the code of 14-3-3. J Cell Sci 117:1875-1884.
Silhan J, Obsilova V, Vecer J, Herman P, Sulc M, Teisinger J, Obsil T (2004) 14-3-3 Protein C-terminal stretch occupies ligand binding groove and is displaced by phosphopeptide binding. J Biol Chem 279:49113-49119.
Woodcock JM, Murphy J, Stomski FC, Berndt MC, Lopez AF (2003) The dimeric versus monomeric status of 14-3-3 zeta is controlled by phosphorylation of Ser58 at the dimer interface. J Biol Chem 278:36323-36327.
Xiangjun Yang, Cheng Luo, Jian Cai, William M. Pierce, and Gülgün Tezel (2008) Phosphorylation-Dependent Interaction with 14-3-3 in the Regulation of Bad Trafficking in Retinal Ganglion Cells. Invest. Ophthalmol. Vis. Sci., 49: 2483 - 2494.