Revision 1

Store at -20C

#9634

Phospho-(Ser/Thr) PDK1 Docking Motif (18A2) Mouse mAb

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	Source/Isotype:
W, IP, E-P	All	Endogenous	Mouse IgG2a

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50
Peptide ELISA (DELFIA)	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Phospho-(Ser/Thr) PDK1 Docking Motif (18A2) Mouse mAb detects phosphorylated serine or threonine that is surrounded by tyrosine or phenylalanine at the -1 and +1 positions and phenylalanine at the -4 position. It also recognizes peptides containing lysine instead of phenylalanine at the -4 position. This antibody does not cross-react with the nonphosphorylated PDK1 docking motifs or with other phosphorylated motifs. This antibody detects endogenous levels of phosphorylated proteins containing PDK1 docking motif, including phospho-Akt.

Source / Purification

Monoclonal antibody is produced by immunizing animals with peptides containing the PDK1 docking motif.

Background

A hallmark of signal transduction pathways is the reversible phosphorylation of serine and threonine residues within specific sequences, or motifs, in target proteins. Specific signaling motifs include not only sequences that are recognized by protein kinases (1), but also those that are recognized by phosphorylation-dependent binding proteins such as 14-3-3 (2). These modular phosphoprotein interacting domains are critical elements in modulating, directing and amplifying intracellular communications. CST has pioneered the development of phospho-motif specific antibodies, which are invaluable tools for probing the complexity of phospho-regulatory pathways.
Many critical protein kinases can be regulated by phosphorylation at a specific serine or threonine in a hydrophobic motif (3). For example, Akt, a kinase that regulates cell survival, is activated by phosphorylation at Ser473, a site preceded by Phe at -4 and -1 and followed by Tyr at +1 (4). RSK2, p70 S6 kinase and certain PKC isoforms also contain a similar consensus phosphorylation motif. Phosphorylation of these motifs is required for binding to 3-phosphoinositide-dependent kinase 1 (PDK1) (5-7). Phospho-(Ser/Thr) PDK1 Docking Motif (18A2) Monoclonal Antibody is a powerful tool for the characterization of phosphorylated PDK1 docking motifs and the identification of new proteins with PDK1 docking motifs.

Background References

1. Pinna, L.A. and Ruzzene, M. (1996) *Biochim Biophys Acta* 1314, 191-225.
2. Yaffe, M.B. and Elia, A.E. (2001) *Curr Opin Cell Biol* 13, 131-8.
3. Vanhaesebroeck, B. and Alessi, D.R. (2000) *Biochem J* 346 Pt 3, 561-76.
4. Alessi, D.R. et al. (1996) *EMBO J* 15, 6541-51.
5. Frödin, M. et al. (2000) *EMBO J* 19, 2924-34.
6. Balendran, A. et al. (1999) *J Biol Chem* 274, 37400-6.
7. Balendran, A. et al. (2000) *J Biol Chem* 275, 20806-13.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation **E-P:** Peptide ELISA (DELFIA)

Cross-Reactivity Key

All: All Species Expected

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