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Phospho-(Ser/Thr) Kinase Substrate Antibody Sampler Kit

1 Kit (6 x 20 microliters)

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Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Phospho-AMPK Substrate Motif [LXRXX(pS/pT) MultiMab [®] Rabbit mAb mix	5759	20 µl		Rabbit
Phospho-Akt Substrate (RXXS*/T*) (110B7E) Rabbit mAb	9614	20 µl		Rabbit IgG
Phospho-PKA Substrate (RXXS*/T*) (100G7E) Rabbit mAb	9624	20 µl		Rabbit IgG
Phospho-ATM/ATR Substrate Motif [(pS/pT) QG] MultiMab [®] Rabbit mAb mix	6966	20 µl		Rabbit IgG
Phospho-PKC Substrate Motif [(R/K)XpSX(R/K)] MultiMab [®] Rabbit mAb mix	6967	20 µl		Rabbit IgG
Phospho-CDK Substrate Motif [(K/H)pSP] MultiMab [®] Rabbit mAb mix	9477	20 µl		Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The Phospho-(Ser/Thr) Kinase Substrate Antibody Sampler Kit provides an economical means to investigate the downstream activity of select serine/threonine kinases. The kit contains enough primary antibody to perform two western blot experiments with each antibody.

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.

Background

Phospho-(Ser/Thr) kinases and phosphatases play critical roles in a wide range of biological processes. Each phospho-(Ser/Thr) kinase phosphorylates serine or threonine within a specific motif. Akt phosphorylates substrates at a serine or threonine only in a conserved motif characterized by arginine at positions -5 and -3 (1). Conventional PKC isozymes phosphorylate substrates containing serine or threonine, with arginine or lysine at the -3, -2 and +2 positions, and a hydrophobic amino acid at position +1 (2,3). A consensus phosphorylation site of PKA is serine or threonine with arginine at the -2 and -3 positions (3). AMPK phosphorylates consensus motif (L/M)XRXX(S/T)XXXL (6). Antibodies recognizing the LXRXX(S/T) motif are very useful in the identification of AMPK substrates. The consensus amino acid sequence for CDK substrate is (K/R)(S*)PX(K/R), where denotes any one of the 20 amino acids and S* is the phosphorylation site (4-6). ATM and the related kinase ATR phosphorylate serine or threonine in an S*/T*Q motif (7,8).

Antibodies specific to particular kinase substrates are invaluable reagents in determining kinase activity and identifying potential new kinase substrates. CST has developed antibodies that recognize phosphorylated serine or threonine within the context of a protein motif that is phosphorylated by Akt, PKC, PKA, MAPK/CDK, CDKs or ATM/ATR. As shown by peptide pairing ELISA, each phospho-(Ser/Thr) kinase substrate antibody in this sampler kit is specific to its kinase substrate motif.

Background References

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2. Nishikawa, K. et al. (1997) *J Biol Chem* 272, 952-60.
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4. Songyang, Z. et al. (1996) *Mol Cell Biol* 16, 6486-93.
5. Songyang, Z. (1999) *Prog Biophys Mol Biol* 71, 359-72.
6. Holmes, J.K. and Solomon, M.J. (1996) *J Biol Chem* 271, 25240-6.
7. Kastan, M.B. and Lim, D.S. (2000) *Nat Rev Mol Cell Biol* 1, 179-86.
8. Zhao, H. and Piwnicka-Worms, H. (2001) *Mol Cell Biol* 21, 4129-39.

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