Revision 1

Phospho-(Ser/Thr) Phe Antibody

#9631 Store at -20C

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	Rabbit

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100
Peptide ELISA (DELFIA)	1:500

Storage

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

Specificity/Sensitivity

Phospho-(Ser/Thr) Phe Antibody detects phospho-serine or threonine in the context of tyrosine, tryptophan or phenylalanine at the -1 position or phenylalanine at the +1 position. The antibody does not cross-react with the nonphosphorylated form of these motifs, nor does it cross-react with other phospho-serine/threonine-containing proteins and peptides. (U.S. Patent No's.: 6,441,140; 6,982,318; 7,259,022; 7,344,714; U.S.S.N. 11,484,485; and all foreign equivalents.)

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic phospho-serine/threonine-phenylalanine-containing peptide. Antibodies are purified by protein A and peptide affinity chromatography.

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 surrounded by phenylalanine or tyrosine. For example, Akt, a kinase that regulates cell survival, is activated by phosphorylation at Ser473, a site surrounded by phenylalanine and tyrosine (3). RSK1, p70S6K, and certain PKC isoforms also contain a similar consensus phosphorylation site. Phosphorylation of these sites is required for kinase activity (4,5). The Phospho-(Ser/Thr) Phe Antibody is a powerful tool for discovery of new proteins containing this important regulatory motif.

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. Alessi, D.R. et al. (1996) *EMBO J* 15, 6541-51.
4. Dalby, K.N. et al. (1998) *J Biol Chem* 273, 1496-505.
5. Keranen, L.M. et al. (1995) *Curr Biol* 5, 1394-1403.

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

Trademarks and Patents

Limited Uses

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