Revision 3

Store at -20C

#9386

Phospho-Threonine (42H4) 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 IgM

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50
Peptide ELISA (DELFIA)	1:2000

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-Threonine (42H4) Mouse mAb binds phosphorylated threonine residues in a manner largely independent of the surrounding amino acid sequence. The antibody is phospho-specific but does not cross-react with phospho-tyrosine-containing sequences. It does show slight cross-reactivity with a few phospho-serine-containing peptides. By ELISA, it recognizes a wide variety of threonine-phosphorylated 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

Monoclonal antibody is produced by immunizing animals with phospho-Thr-containing peptides.

Background

Much of the dynamic behavior of cellular proteins, including the regulation of molecular interactions (1), subcellular localization (2), and transcriptional regulation (3) is controlled by a variety of post-translational modifications (4). Antibodies specific for these post-translational modifications are invaluable tools in the quest to understand normal and pathogenic molecular and cellular behavior. General protein modification antibodies are designed to react with modified amino acid residues (e.g. phospho-threonine, phospho-tyrosine, acetyl-lysine, nitro-tyrosine) independently of the sequence in which they are embedded. This ability to recognize modified residues in a "context-independent" fashion gives these antibodies broad reactivities, presumably conferring upon them the ability to react with hundreds of distinct proteins. This broad pattern of reactivity makes these antibodies especially valuable in multiplex analyses and target discovery programs.
Protein kinases are among the most abundant eukaryotic regulatory proteins; over 500 separate kinase genes are encoded in mammalian genomes (5,6). In spite of the importance of kinases in eukaryotic biology, relatively few of their physiological targets are known. Phospho-Threonine Antibody (P-Thr-Polyclonal) #9381 and Phospho-Threonine (42H4) Monoclonal Antibody #9386 provide powerful tools for discovering targets of serine/threonine kinases, for monitoring and characterizing in vitro threonine phosphorylation reactions as well as for high throughput Ser/Thr kinase drug discovery.

Background References

1. Yaffe, M.B. and Elia, A.E. (2001) *Curr Opin Cell Biol* 13, 131-8.
2. Appella, E. and Anderson, C.W. (2001) *Eur J Biochem* 268, 2764-72.
3. Jenuwein, T. and Allis, C.D. (2001) *Science* 293, 1074-80.
4. Krishna, R.G. and Wold, F. (1993) *Adv Enzymol Relat Areas Mol Biol* 67, 265-98.
5. Venter, J.C. et al. (2001) *Science* 291, 1304-51.
6. Manning, G. et al. (2002) *Science* 298, 1912-34.

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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