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Phospho-Tyrosine Mouse mAb (P-Tyr-102)

Cell Signaling TECHNOLOGY®

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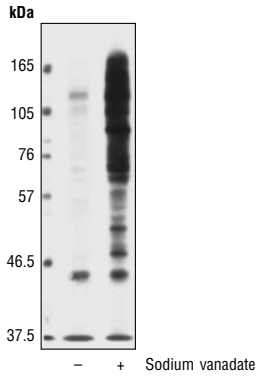
Applications	Species Cross-Reactivity*	Isotype
W, IP, E-P, F	All	Mouse IgG1**
Endogenous		

Background: Tyrosine phosphorylation plays a key role in cellular signaling (1). In cancer, unregulated tyrosine kinase activity can drive malignancy and tumor formation by generating inappropriate proliferation and survival signals (2). Antibodies specific for phospho-tyrosine (3,4) have been invaluable reagents in these studies. The phospho-tyrosine Mouse mAbs developed by CST (P-Tyr-100, #9411 and P-Tyr-102, #9416) provide exceptionally sensitive new tools of increased utility for studying tyrosine phosphoyrlation and monitoring tyrosine kinase activity in high throughput drug discovery.

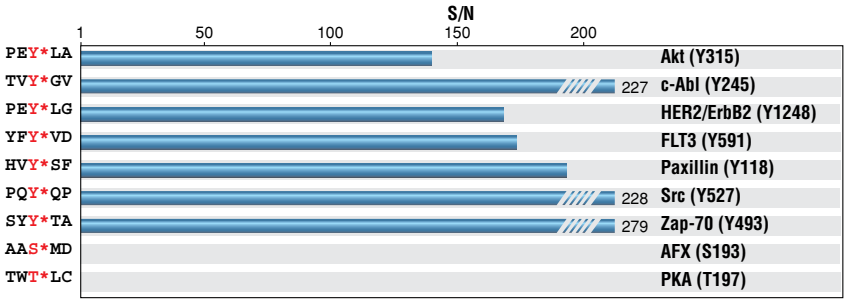
Specificity/Sensitivity: Phospho-Tyrosine Mouse mAb (P-Tyr-102) is a high affinity IgG1 monoclonal antibody. ELISAs using a wide variety of phospho-peptides show that P-Tyr-102 binds phospho-Tyr in a manner largely independent of the surrounding amino acid sequence.

2D gel western blot analysis of pervanadate-treated cell extracts also shows that P-Tyr-102 interacts with a broad range of tyrosine-phosphorylated proteins. P-Tyr-102's fine specificity in terms of the sequence context in which it can recognize phospho-tyrosine seems to differ slightly from that of P-Tyr-100 #9411. P-Tyr-102 does not recognize peptides containing phospho-Ser or phospho-Thr. (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.)



Western blot analysis of extracts from sodium vanadate treated (3 mM for 0.5 hour) NIH/3T3 cells, using Phospho-Tyrosine Mouse mAb (P-Tyr-102).

Source/Purification: Monoclonal antibody is produced by immunizing animals with synthetic phospho-Tyr-containing peptides.



Phospho-Tyrosine Mouse mAb (P-Tyr-102) ELISA Assay: Signal-to-noise ratio of phospho- versus nonphospho-peptides. (Y denotes phosphorylated tyrosine.)*

License/Use Restrictions: *Use of CST Motif Antibodies within certain methods (e.g., U.S. Patent No.'s 7,198,896 & 7,300,753) may require a license from CST. For information regarding academic licensing terms please have your technology transfer office contact CST Legal Department at CST_ip@cellsignal.com. For information regarding commercial licensing terms please contact CST Pharma Services Department at ptmscan@cellsignal.com.*

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.

***Species cross-reactivity is determined by western blot.**

****Anti-mouse secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western Blotting	1:2000
Immunoprecipitation	1:50
ELISA-Peptide	1:1000
Flow Cytometry	1:400

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com

Background References:

(1) Schlessinger, J. (2000) *Cell* 103, 211–225.

(2) Blume-Jensen, P. and Hunter, T. (2001) *Nature* 411, 355–365.

(3) Ward, S.G. et al. (1992) *J. Biol. Chem.* 267, 23862–23869.

(4) Glenney, J.R. et al. (1988) *J. Immunol. Methods.* 109, 277–285.

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

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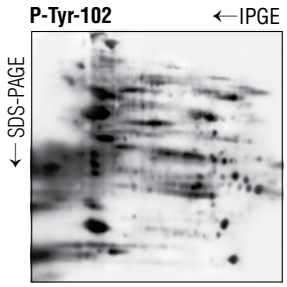
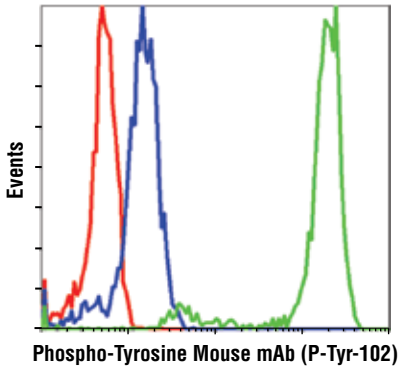
Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide

Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



Comparison of Phospho-Tyrosine Mouse mAb (P-Tyr-102) and PY20 phospho-tyrosine antibodies: Western blot analysis of extracts from Jurkat cells treated with 1 mM pervanadate for 30 minutes prior to lysis. Proteins were separated by 2D electrophoresis prior to blotting.



Flow cytometric analysis of NIH/3T3 cells, untreated (blue) or pervanadate-treated (green), using Phospho-Tyrosine Mouse mAb (P-Tyr-102) compared with a nonspecific negative control antibody (red).