

#9211 Store at -20°C

Phospho-p38 MAP Kinase (Thr180/Tyr182) Antibody

- Small 200 µl (20 Western mini-blot)
- Large 600 µl (60 Western mini-blot)



Orders ■ 877-616-CELL (2355)
 orders@cellsignal.com
Support ■ 877-678-TECH (8324)
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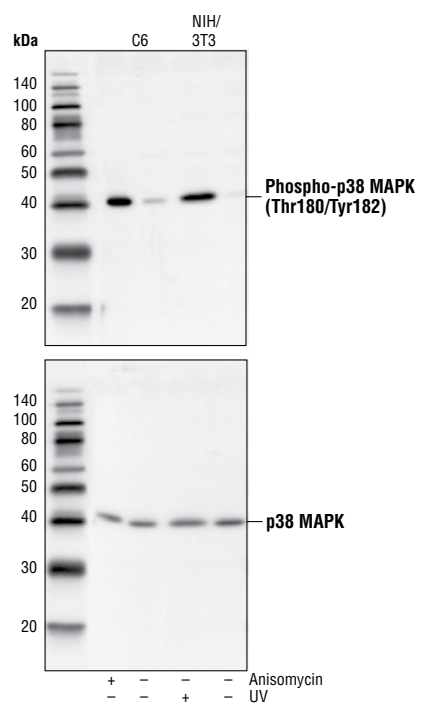
This product is for *in vitro* research use only and is not intended for use in humans or animals. This product is not intended for use as a therapeutic or in diagnostic procedures.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP, IF-IC, F Endogenous	H, M, R, Mk, Dm, Pg, Sc, (Z, B)	43 kDa	Rabbit**

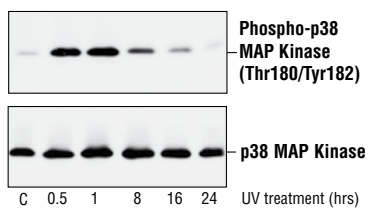
Background: p38 MAP kinase (MAPK), also called RK (1) or CSBP (2), is the mammalian orthologue of the yeast HOG kinase which participates in a signaling cascade controlling cellular responses to cytokines and stress (1-4). Four isoforms of p38 MAP kinase, p38 α , β , γ (also known as ERK6 or SAPK3) and δ (also known as SAPK4) have been identified. Similar to the SAPK/JNK pathway, p38 MAP kinase is activated by a variety of cellular stresses including osmotic shock, inflammatory cytokines, lipopolysaccharides (LPS), UV light and growth factors (1-5). MKK3, MKK6 and SEK activate p38 MAP kinase by phosphorylation at Thr180 and Tyr182. Activated p38 MAP kinase has been shown to phosphorylate and activate MAPKAP kinase 2 (3) and to phosphorylate the transcription factors ATF-2 (5), Max (6) and MEF2 (5-8).

Specificity/Sensitivity: Phospho-p38 MAP Kinase (Thr180/Tyr182) Antibody detects endogenous levels of p38 MAP kinase only when activated by phosphorylation at threonine 180 and tyrosine 182. This antibody does not cross-react with the phosphorylated forms of either p42/44 MAPK or SAPK/JNK. It will also react with p38 singly phosphorylated at Thr180 and singly phosphorylated at Tyr182.

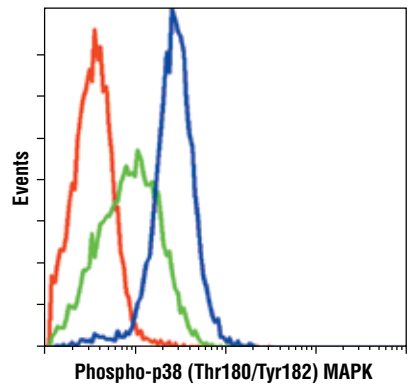
Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide (KLH-coupled) corresponding to residues around Thr180/Tyr182 of human p38 MAP kinase. Antibodies are purified by protein A and peptide affinity chromatography.



Western blot analysis of extracts from C6 cells, untreated or anisomycin-treated, and NIH/3T3 cells, untreated or UV-treated, using phospho-p38 MAPK (Thr180/Tyr182) Antibody (upper) or p38 MAPK Antibody #9212 (lower)



Western blot analysis of extracts from UV-treated NIH/3T3 cells, using Phospho-p38 MAP Kinase (Thr180/Tyr182) Antibody (upper) or control p38 MAP Kinase Antibody #9212 (lower)



Flow cytometric analysis of Jurkat cells, untreated (green) or anisomycin treated (blue), using Phospho-p38 MAP Kinase (Thr180/Tyr182) Antibody compared to a nonspecific negative control antibody (red)

Swiss-Prot Acc. #Q16539

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.

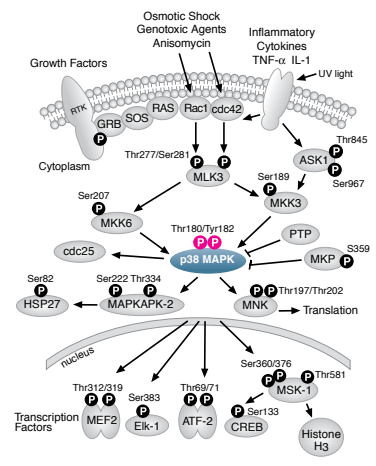
***Species cross-reactivity is determined by western blot.**
****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western Blotting	1:1000
Immunoprecipitation	1:50
Immunofluorescence (IF-IC)	1:100
Flow Cytometry	1:200

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.



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.

Product Name	Product #	Western Blot	Immuno-precipitation	Immuno-histochemistry	Immuno-fluorescence	Flow Cytometry
Phospho-p38 MAP Kinase (Thr180/Tyr182) Antibody	9211	++	++	–	++	++
Phospho-p38 MAPK (Thr180/Tyr182) (28B10) Mouse mAb	9216	++	+++	–	–	++
Phospho-p38 MAPK (Thr180/Tyr182) (3D7) Rabbit mAb	9215	+++	–	–	++	+++
Phospho-p38 MAPK (Thr180/Tyr182)(12F8) Rabbit mAb (IHC Preferred)	4631	++	–	+++	+++	–

Selected Application References:

Xing, H. et al. (2000) 14-3-3 proteins block apoptosis and differentially regulate MAPK cascades. *EMBO J.* 19, 349–358. Application: W.

Hata, K. et al. (2003) Differential roles of Smad1 and p38 kinase in regulation of peroxisome proliferator-activating receptor gamma during bone morphogenetic protein 2-induced adipogenesis. *Mol. Biol. Cell* 14, 545–555. Application: W.

Patrucco, E. et al. (2004) PI3K γ modulates the cardiac response to chronic pressure overload by distinct kinase-dependent and -independent effects. *Cell* 118, 375–387. Application: W.

Liu, F. et al. (2002) GnRH activates ERK1/2 leading to the induction of c-fos and LH β protein expression in L β T2 cells. *Mol. Endocrinol.* 16, 419–434. Application: W.

Villunger, A. et al. (2000) Fas ligand, Bcl-2, granulocyte colony-stimulating factor, and p38 mitogen-activated protein kinase: regulators of distinct cell death and survival pathways in granulocytes. *J. Exp. Med.* 192, 647–658. Application: W.

Lee, Y.W. et al. (2000) 2-Amino-3-methylimidazo[4,5-f]quinoline inhibits nitric oxide production in lipopolysaccharide-stimulated. *Cancer Lett.* 156, 133–139. Application: W.

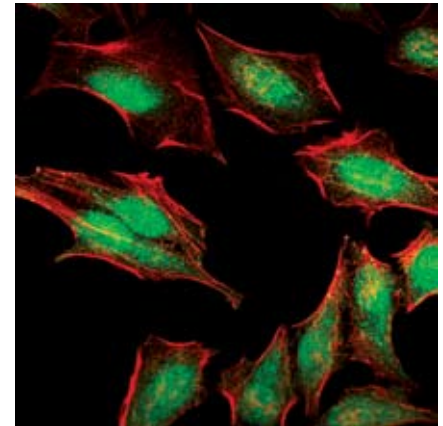
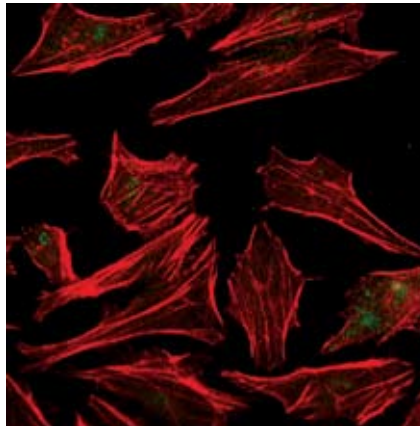
Uddin, S. et al. (2000) The Rac1/p38 mitogen-activated protein kinase pathway is required for interferon α -dependent transcriptional activation but not serine phosphorylation of Stat proteins. *J. Biol. Chem.* 275, 27634–27640. Application: W.

Hsu, J.T. et al. (2007) Role of p38 mitogen-activated protein kinase pathway in estrogen-mediated cardioprotection following trauma-hemorrhage. *Am. J. Physiol. Heart. Circ. Physiol.* 292, H2982–H2987. Application: W.

Herczenik, E. et al. (2007) Activation of human platelets by misfolded proteins. *Arterioscler. Thromb. Vasc. Biol.* 27, 1657–1665. Application: W.

Zaru, R. et al. (2007) The MAPK-activated kinase Rsk controls an acute Toll-like receptor signaling response in dendritic cells and is activated through two distinct pathways. *Nat Immunol* 8, 1227–35. Application: W.

Goss, V.L. et al. (2006) A common phosphotyrosine signature for the Bcr-Abl kinase. *Blood* 107, 4888–97. Application: Western Blotting.



Confocal immunofluorescent analysis of HeLa cells \pm UV light, labeled with Phospho-p38 MAP Kinase (green). Absence of staining in untreated cells (left) and cytoplasmic localization in treated cells (right). Red = Actin filaments (phalloidin).

Background References:

- (1) Rouse, J. et al. (1994) *Cell* 78, 1027–1037.
- (2) Han, J. et al. (1994) *Science* 265, 808–811.
- (3) Lee, J.C. et al. (1994) *Nature* 372, 739–746.
- (4) Freshney, N.W. et al. (1994) *Cell* 78, 1039–1049.
- (5) Raingeaud, J. et al. (1995) *J. Biol. Chem.* 270, 7420–7426.
- (6) Zervos, A.S. et al. (1995) *Proc. Natl. Acad. Sci. USA* 92, 10531–10534.
- (7) Zhao, M. et al. (1999) *Mol. Cell. Biol.* 19, 21–30.
- (8) Yang, S.H. et al. (1999) *Mol. Cell. Biol.* 19, 4028–4038.