

Phospho-p38 MAPK (Thr180/Tyr182) (12F8) Rabbit mAb



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rev. 07/31/18

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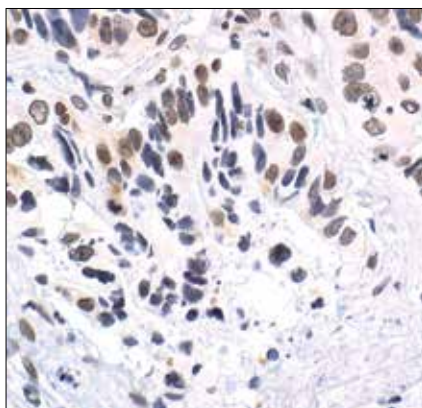
Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IHC-P, IF-IC Endogenous	H, M, R, Mk, Dm, (MI, Z, Hm)	43 kDa	Rabbit IgG**

Background: p38 MAP kinase (MAPK), also called RK (1) or CSBP (2), is the mammalian orthologue of the yeast HOG kinase that participates in a signaling cascade controlling cellular responses to cytokines and stress (1-4). Four isoforms of p38 MAPK, p38 α , p38 β , p38 γ (also known as Erk6 or SAPK3), and p38 δ (also known as SAPK4) have been identified. Similar to the SAPK/JNK pathway, p38 MAPK is activated by a variety of cellular stresses including osmotic shock, inflammatory cytokines, lipopolysaccharide (LPS), UV light, and growth factors (1-5). MKK3, MKK6, and SEK activate p38 MAPK by phosphorylation at Thr180 and Tyr182. Activated p38 MAPK 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).

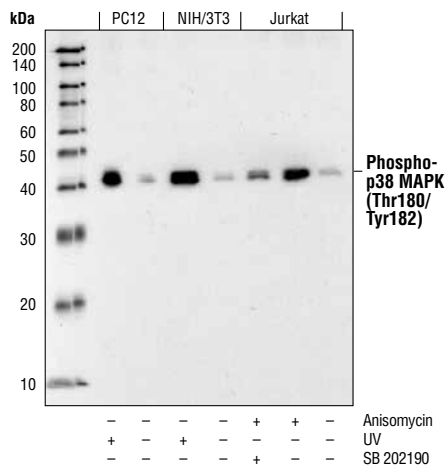
SB203580 (4-(4-fluorophenyl)-2-(4-methylsulfinylphenyl)-5-(4-pyridyl)-imidazole) is a selective inhibitor of p38 MAPK. This compound inhibits the activation of MAPKAP-2 by p38 MAPK and subsequent phosphorylation of HSP27 (9). SB203580 inhibits p38 MAPK catalytic activity by binding to the ATP-binding pocket, but does not inhibit phosphorylation of p38 MAPK by upstream kinases (10).

Specificity/Sensitivity: Phospho-p38 MAP Kinase (Thr180/Tyr182) (12F8) Rabbit mAb detects endogenous levels of p38 MAPK only when dually phosphorylated at threonine 180 and tyrosine182. It will also react with p38 singly phosphorylated at Thr180. This antibody does not cross-react with the phosphorylated forms of either p42/44 MAPK or SAPK/JNK.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr180/Tyr182 of human p38 MAPK.



Immunohistochemistry of paraffin-embedded lung carcinoma, showing nuclear localization, using Phospho-p38 MAP Kinase (Thr180/Tyr182) (12F8) Rabbit mAb.



Western blot analysis of extracts from Jurkat, NIH/3T3 and PC12 cells, untreated or treated as indicated, using Phospho-p38 MAP Kinase (Thr180/Tyr182) (12F8) Rabbit mAb.

Entrez-Gene ID #Q16539
UniProt ID #1432

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μ g/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-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western Blotting	1:1000
Immunohistochemistry (Paraffin)	1:100†
Unmasking buffer:	Citrate
Antibody diluent:	TBST-5%NGS
Detection reagent:	SignalStain® Boost (HRP, Rabbit) #8114
†Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.	
Immunofluorescence (IF-IC)	1:100

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

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

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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.
- (9) Cuenda, A. et al. (1995) *FEBS Lett* 364, 229-33.
- (10) Kumar, S. et al. (1999) *Biochem Biophys Res Commun* 263, 825-31.

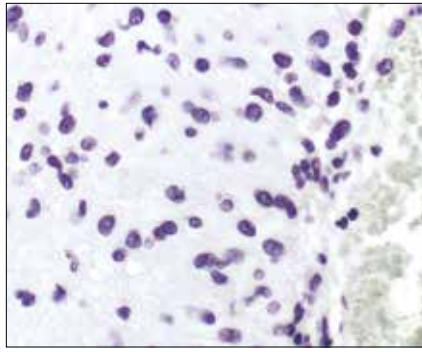
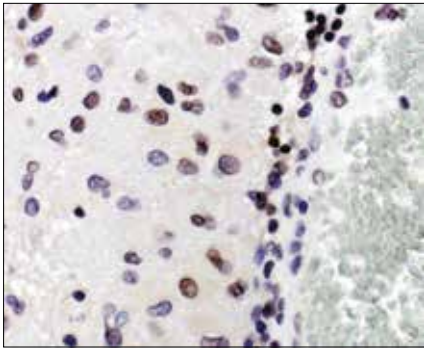
U.S. Patent No. 5,675,063

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.

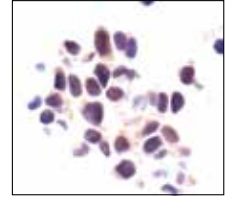
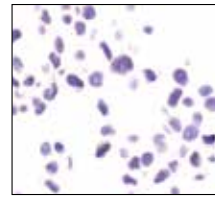
Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide

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

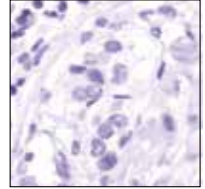
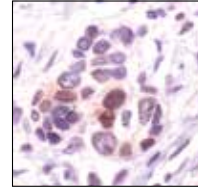
Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



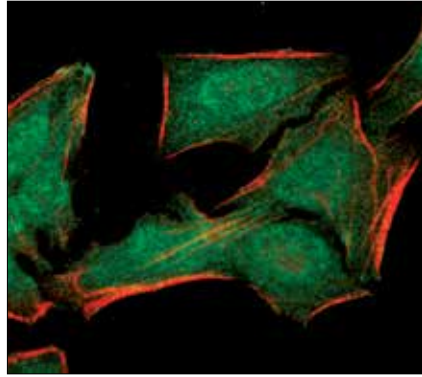
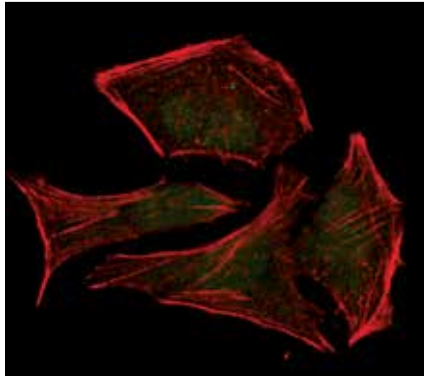
Immunohistochemistry of paraffin-embedded human glioblastoma, untreated (left) or CIP phosphatase-treated (right), using Phospho-p38 MAP Kinase (Thr180/Tyr182) (12F8) Rabbit mAb.



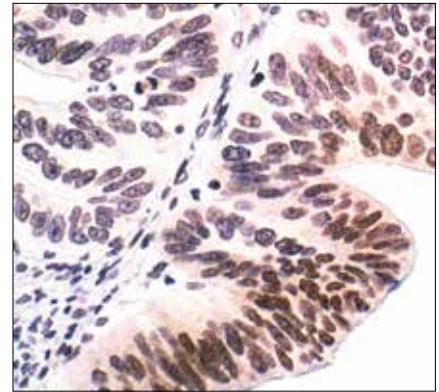
Immunohistochemistry of paraffin-embedded NIH/3T3 cells, untreated (left) or anisomycin-treated (right), using Phospho-p38 MAP Kinase (Thr180/Tyr182) (12F8) Rabbit mAb.



Immunohistochemistry of paraffin-embedded breast carcinoma, using Phospho-p38 MAP Kinase (Thr180/Tyr182) (12F8) Rabbit mAb (left) or the same antibody preincubated with antigen phospho-peptide (right).



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



Immunohistochemistry of paraffin-embedded colon carcinoma, showing nuclear localization, using Phospho-p38 MAP Kinase (Thr180/Tyr182) (12F8) Rabbit mAb.