

Store at  
-20°C

# PhosphoPlus<sup>®</sup> p38 MAPK (Thr180/ Tyr182) Antibody Duet



#8203

Rev. 05/14/18

**Support:** +1-978-867-2388 (U.S.)  
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**Entrez-Gene ID** #1432  
**UniProt ID** #Q16539

**For Research Use Only. Not For Use In Diagnostic Procedures.**

Products Included	Product #	Quantity	Mol. Wt.	Isotype/Source
P-p38 MAPK (T180/Y182) (D3F9) XP <sup>®</sup> Rabbit mAb	4511	200 µl	43 kDa	Rabbit IgG
p38 MAPK (D13E1) XP <sup>®</sup> Rabbit mAb	8690	100 µl	40 kDa	Rabbit IgG

See [www.cellsignal.com](http://www.cellsignal.com) for individual component applications, species cross-reactivity, dilutions, and additional application protocols.

**Description:** PhosphoPlus<sup>®</sup> Duets from Cell Signaling Technology (CST) provide a means to assess protein activation status. Each Duet contains an activation-state and total protein antibody to your target of interest. These antibodies have been selected from CST's product offering based upon superior performance in specified applications.

**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 $\alpha$ ,  $\beta$ ,  $\gamma$  (also known as Erk6 or SAPK3), and  $\delta$  (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 MAPK (Thr180/Tyr182) (D3F9) XP<sup>®</sup> Rabbit mAb detects endogenous levels of p38 MAPK only when phosphorylated at Thr180 and Tyr182. This antibody does not cross-react with the phosphorylated forms of either p42/44 MAPK or SAPK/JNK. p38 MAPK (D13E1) XP<sup>®</sup> Rabbit mAb recognizes endogenous levels of total p38 $\alpha$ ,  $\beta$ , or  $\gamma$  MAPK protein. This antibody does not recognize p38 $\delta$ , SAPK/JNK, or p44/42 MAPK proteins.

**Source/Purification:** Monoclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr180/Tyr182 of human p38 MAPK or with a synthetic peptide corresponding to residues near the carboxy terminus of human p38 protein.

**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.

**For product specific protocols and a complete listing of recommended companion products please see the product web page at [www.cellsignal.com](http://www.cellsignal.com).**

#### Background References:

- (1) Rouse, J. et al. (1994) *Cell* 78, 1027-37.
- (2) Han, J. et al. (1994) *Science* 265, 808-11.
- (3) Lee, J.C. et al. (1994) *Nature* 372, 739-46.
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- (6) Zervos, A.S. et al. (1995) *Proc Natl Acad Sci U S A* 92, 10531-4.
- (7) Zhao, M. et al. (1999) *Mol Cell Biol* 19, 21-30.
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**Applications:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** 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.