

p38 MAPK (D13E1) XP[®] Rabbit mAb (Biotinylated)



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

Applications W Endogenous	Species Cross-Reactivity* H, M, R, Mk, Hm, Pg, B, (C)	Molecular Wt. 40 kDa	Isotype Rabbit IgG
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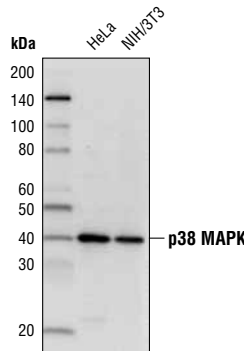
Description: This Cell Signaling Technology antibody is conjugated to biotin under optimal conditions. The biotinylated antibody is expected to exhibit the same species cross-reactivity as the unconjugated p38 MAPK (D13E1) XP[®] Rabbit mAb #8690.

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 , β , γ (also known as Erk6 or SAPK3), and 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 MAPKAPK-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: p38 MAPK (D13E1) XP[®] Rabbit mAb (Biotinylated) recognizes endogenous levels of total p38 α , β , or γ MAPK protein. This antibody does not recognize p38 δ , SAPK/JNK, or p44/42 MAPK proteins.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human p38 MAPK protein.



Western blot analysis of extracts from HeLa and NIH/3T3 cells using p38 MAPK (D13E1) XP[®] Rabbit mAb (Biotinylated). Streptavidin-HRP #3999 was used for detection.

Entrez-Gene ID #1432, 5600, 6300
Swiss-Prot Acc. #Q16539, Q15759, P53778

Storage: Supplied in 136 mM NaCl, 2.6 mM KCl, 12 mM sodium phosphate (pH 7.4) dibasic, 2 mg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

***Species cross-reactivity other than human and mouse is determined by western using the unconjugated antibody.**

Biotinylated antibodies are designed to be detected using streptavidin or anti-Biotin antibody conjugates.

Recommended Antibody Dilutions:

Western blotting 1:1000

For product 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 complementary products.

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.

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 All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.