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#14594

Phospho-p38 MAPK (Thr180/Tyr182) (3D7) Rabbit mAb (Alexa Fluor® 647 Conjugate)



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Entrez-Gene ID #1432
UniProt ID #Q16539

New 11/17

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

Applications
F
Endogenous

Species Cross-Reactivity*
H, M, R, Mk, Dm, Pg, Sc,
(Mi, Z, B, Hm)

Isotype
Rabbit IgG

Description: This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 647 fluorescent dye and tested in-house for direct flow cytometric analysis in mouse cells. This antibody is expected to exhibit the same species cross-reactivity as the unconjugated Phospho-p38 MAP Kinase (Thr180/Tyr182) (3D7) Rabbit mAb #9215.

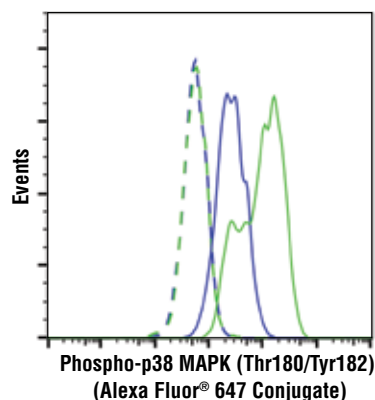
Background: p38 MAP kinase (MAPK), also called RK (1) or CSBP (2), is the mammalian orthologue of the yeast HOG kinase that participates in a signaling cascade controlling cellular responses to cytokines and stress (1-4). Four isoforms of p38 MAPK, p38 α , β , γ (also known as Erk6 or SAPK3), and δ (also 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 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).

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.
- (4) Freshney, N.W. et al. (1994) *Cell* 78, 1039-49.
- (5) Raingeaud, J. et al. (1995) *J Biol Chem* 270, 7420-6.
- (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.
- (8) Yang, S.H. et al. (1999) *Mol Cell Biol* 19, 4028-38.
- (9) Cuenda, A. et al. (1995) *FEBS Lett* 364, 229-33.
- (10) Kumar, S. et al. (1999) *Biochem Biophys Res Commun* 263, 825-31.

Specificity/Sensitivity: Phospho-p38 MAP Kinase (Thr180/Tyr182) (3D7) Rabbit mAb (Alexa Fluor® 647 Conjugate) detects endogenous levels of p38 MAPK only when dually phosphorylated at Thr180 and Tyr182. 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.



Flow cytometric analysis of C2C12 cells untreated (blue) or anisomycin-treated (25 μ g/mL, 30 min; green), using Phospho-p38 MAPK (Thr180/Tyr182) (3D7) Rabbit mAb (Alexa Fluor® 647 Conjugate) (solid lines) or a Rabbit (DA1E) mAb IgG XP® Isotype Control (Alexa Fluor® 647 Conjugate) #2985 (dashed lines).

Storage: Supplied in PBS (pH 7.2), less than 0.1% sodium azide and 2 mg/ml BSA. Store at 4°C. Do not aliquot the antibody. Protect from light. Do not freeze.

Recommended Antibody Dilutions:

Flow Cytometry 1:50

*Species cross-reactivity is determined by western blot using the unconjugated antibody.

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

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