

#4551
 Store at +4°C

Phospho-p38 MAPK (Thr180/Tyr182) (28B10) Mouse mAb (Alexa Fluor® 488 Conjugate)


Cell Signaling
 TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.
Applications:
 FC-FP

Reactivity:
 H M R Mk Sc

Sensitivity:
 Endogenous

Source/Isotype:
 Mouse IgG1

UniProt ID:
 #Q16539, #O15264,
 #P53778, #Q15759

Entrez-Gene Id:
 1432, 5603, 6300, 5600

**Product Usage
Information**
Application

Flow Cytometry (Fixed/Permeabilized)

Dilution

1:50

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.

Specificity / Sensitivity

Phospho-p38 MAPK (Thr180/Tyr182) (28B10) Mouse mAb (Alexa Fluor® 488 Conjugate) detects endogenous levels of p38 MAP kinase only when dually phosphorylated at Thr180 and Tyr182. This antibody does not appreciably cross-react with the corresponding phosphorylated forms of either p44/42 MAPK (Erk1/2) or SAPK/JNK.

**Species predicted to
react based on 100%
sequence homology:**

Zebrafish

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr180/Tyr182 of human p38 MAP kinase. Antibody was conjugated to Alexa Fluor® 488 under optimum conditions with an F/P ratio of 2-6.

Product Description

This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 488 fluorescent dye and tested in-house for direct flow cytometric analysis of human and mouse cells. The unconjugated antibody #9216 reacts with human, mouse, rat, D. melanogaster, monkey, S. cerevisiae and zebra fish phospho-p38 MAPK (Thr180/Tyr182). CST expects that Phospho-p38 MAPK (Thr180/Tyr182) (28B10) Mouse mAb (Alexa Fluor® 488 Conjugate) will also recognize p44/42 MAPK in these species.

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).

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.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Applications Key

FC-FP: Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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 **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

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