


**Cell Signaling**  
TECHNOLOGY®

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<b>Applications:</b> FC-FP	<b>Reactivity:</b> H M R Mk Sc	<b>Sensitivity:</b> Endogenous	<b>Source/Isotype:</b> Mouse IgG1	<b>UniProt ID:</b> #Q16539, #O15264, #P53778, #Q15759	<b>Entrez-Gene Id:</b> 1432, 5603, 6300, 5600
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<b>Product Usage Information</b>	<b>Application</b> Flow Cytometry (Fixed/Permeabilized)	<b>Dilution</b> 1:50
<b>Storage</b>	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.	
<b>Specificity / Sensitivity</b>	Phospho-p38 MAPK (Thr180/Tyr182) (28B10) Mouse mAb (Alexa Fluor® 647 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.	
<b>Species predicted to react based on 100% sequence homology:</b>	Zebrafish	
<b>Source / Purification</b>	Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr180/Tyr182 of human p38 MAP kinase. This antibody was conjugated to Alexa Fluor® 647 under optimal conditions with an F/P ratio of 2-6. The Alexa Fluor® 647 dye is maximally excited by red light (e.g. 633 nm He-Ne laser). Antibody conjugates of the Alexa Fluor® 647 dye produce bright far-red-fluorescence emission, with a peak at 665 nm.	
<b>Product Description</b>	This Cell Signaling Technology antibody is conjugated to Alexa Fluor® 647 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® 647 Conjugate) will also recognize phospho-p38 MAPK (Thr180/Tyr182) in these species.	
<b>Background</b>	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, p38α, 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).	
<b>Background References</b>	1. Rouse, J. et al. (1994) <i>Cell</i> 78, 1027-37. 2. Han, J. et al. (1994) <i>Science</i> 265, 808-11. 3. Lee, J.C. et al. (1994) <i>Nature</i> 372, 739-46. 4. Freshney, N.W. et al. (1994) <i>Cell</i> 78, 1039-49. 5. Raingeaud, J. et al. (1995) <i>J Biol Chem</i> 270, 7420-6. 6. Zervos, A.S. et al. (1995) <i>Proc Natl Acad Sci U S A</i> 92, 10531-4. 7. Zhao, M. et al. (1999) <i>Mol Cell Biol</i> 19, 21-30. 8. Yang, S.H. et al. (1999) <i>Mol Cell Biol</i> 19, 4028-38. 9. Cuenda, A. et al. (1995) <i>FEBS Lett</i> 364, 229-33.	

**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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