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Phospho-p38 MAPK (Thr180/Tyr182) (28B10) Mouse mAb (Sepharose® Bead Conjugate)

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
IP	H M R Mk Sc	Endogenous	40	Mouse IgG1	#Q16539, #O15264, #P53778, #Q15759	1432, 5603, 6300, 5600

Product Usage Information	Application Immunoprecipitation	Dilution 1:20
Solutions and Reagents	Storage Buffer: 20 mM Tris-HCl (pH 7.4) 150 mM NaCl 1 mM Na ₂ EDTA 1 mM EGTA 1% Triton X-100 2.5 mM sodium pyrophosphate 1 mM β-glycerophosphate 1 mM Na ₃ VO ₄ 1 μg/ml leupeptin 50% glycerol Note: Please aliquot prior to first use.	
Storage	Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μg/ml BSA, 50% glycerol. Store at -20°C. Do not aliquot the antibodies.	
Specificity/Sensitivity	Phospho-p38 MAPK (Thr180/Tyr182) Mouse mAb (Sepharose® Bead Conjugate) binds only p38 MAPK only when dually phosphorylated at Thr180 and Tyr182. This antibody was immobilized via conjugation of carbohydrates to cross-linked agarose hydrazide beads. This antibody does not significantly cross-react with phosphorylated SAPK/JNK or p44/42 MAPK, or with nonphosphorylated p38 MAPK.	
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 around Thr180/Tyr182 of human p38 MAP kinase.	
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, 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 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	<ol style="list-style-type: none"> 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. 10. Kumar, S. et al. (1999) <i>Biochem Biophys Res Commun</i> 263, 825-31. 	

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

Applications Key **IP:** Immunoprecipitation

Cross-Reactivity Key **H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey **Sc:** *S. cerevisiae*

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