



Orders: 877-616-CELL (2355)  
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

Store at +4C  
#4552

## Phospho-p38 MAPK (Thr180/Tyr182) (28B10) Mouse mAb (Alexa Fluor® 647 Conjugate)

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

<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
-------------------------------	-----------------------------------	-----------------------------------	--------------------------------------	---	---

<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>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, <i>D. melanogaster</i> , monkey, <i>S. cerevisiae</i> 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>	<ol style="list-style-type: none"> <li>1. Rouse, J. et al. (1994) <i>Cell</i> 78, 1027-37.</li> <li>2. Han, J. et al. (1994) <i>Science</i> 265, 808-11.</li> <li>3. Lee, J.C. et al. (1994) <i>Nature</i> 372, 739-46.</li> <li>4. Freshney, N.W. et al. (1994) <i>Cell</i> 78, 1039-49.</li> <li>5. Raingeaud, J. et al. (1995) <i>J Biol Chem</i> 270, 7420-6.</li> <li>6. Zervos, A.S. et al. (1995) <i>Proc Natl Acad Sci U S A</i> 92, 10531-4.</li> <li>7. Zhao, M. et al. (1999) <i>Mol Cell Biol</i> 19, 21-30.</li> <li>8. Yang, S.H. et al. (1999) <i>Mol Cell Biol</i> 19, 4028-38.</li> <li>9. Cuenda, A. et al. (1995) <i>FEBS Lett</i> 364, 229-33.</li> <li>10. Kumar, S. et al. (1999) <i>Biochem Biophys Res Commun</i> 263, 825-31.</li> </ol>	

### 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 **Mk:** Monkey **Sc:** *S. cerevisiae*

## Trademarks and Patents

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

This product is provided under an intellectual property license from Life Technologies Corporation. The transfer of this product is conditioned on the buyer using the purchased product solely in research conducted by the buyer, excluding contract research or any fee for service research, and the buyer must not (1) use this product or its components for (a) diagnostic, therapeutic or prophylactic purposes; (b) testing, analysis or screening services, or information in return for compensation on a per-test basis; or (c) manufacturing or quality assurance or quality control, and/or (2) sell or transfer this product or its components for resale, whether or not resold for use in research. For information on purchasing a license to this product for purposes other than as described above, contact Life Technologies Corporation, 5791 Van Allen Way, Carlsbad, CA 92008 USA or [outlicensing@lifetech.com](mailto:outlicensing@lifetech.com).

All other trademarks are the property of their respective owners. Visit [cellsignal.com/trademarks](http://cellsignal.com/trademarks) for more information.

## Limited Uses

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.