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## Phospho-p38 MAPK (Thr180/Tyr182) (3D7) Rabbit mAb (PE Conjugate)

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Applications:	Reactivity:	Sensitivity:	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
FC-FP	H M R Mk Dm Pg Sc	Endogenous	Rabbit IgG	#Q16539, #O15264, #P53778, #Q15759	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 antibodies. Protect from light. Do not freeze.

### Specificity/Sensitivity

Phospho-p38 MAPK (Thr180/Tyr182) (3D7) Rabbit mAb (PE 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.

### Species predicted to react based on 100% sequence homology

Hamster, Mink, Zebrafish, Bovine

### Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr180/Tyr182 of human p38 MAPK protein.

### Description

This Cell Signaling Technology antibody is conjugated to phycoerythrin (PE) and tested in-house for direct flow cytometry analysis in human cells. The antibody is expected to exhibit the same species cross-reactivity as the unconjugated Phospho-p38 MAPK (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 $\alpha$ ,  $\beta$ ,  $\gamma$  (also known as Erk6 or SAPK3), and  $\delta$  (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

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- Raingaud, J. et al. (1995) *J Biol Chem* 270, 7420-6.
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- Zhao, M. et al. (1999) *Mol Cell Biol* 19, 21-30.
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- 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 **Mk:** Monkey **Dm:** D. melanogaster **Pg:** Pig **Sc:** S. cerevisiae

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