

# phospho-p38 $\alpha$ MAP Kinase (Tyr-323) Peptide

Cat. # PX3415

Size 50  $\mu$ g

## **Background:**

p38 MAP kinase (MAPK), also called RK, CSBP, and SAPK2a, is the mammalian orthologue of the yeast HOG kinase. This family of kinases participates in signaling cascades that control cellular responses to cytokines and stress. Four isoforms of p38 MAPK ( $\alpha, \beta, \gamma, \delta$ ) have been identified. Similar to the SAPK/JNK pathway, p38 MAPK is activated by a variety of cellular stresses including osmotic shock, inflammatory cytokines, lipopolysaccharides, UV light, and growth factors. MKK3 and SEK activate p38 MAPK by dual phosphorylation at Thr-180/Tyr-182. Activated p38 MAPK has been shown to phosphorylate and activate MAPKAP kinase 2 and to phosphorylate the transcription factors ATF-2, Max and MEF2. T cells possess an alternative pathway for p38 activation where stimulation of the antigen receptor (TCR) induces phosphorylation of p38 on Tyr-323. This site is required for TCR-mediated phosphorylation of Thr-180 and catalytic activity. Thus, Tyr-323 may also have important roles in regulating p38 MAP kinase pathways.

## **References**

Han, J. et al. (1994) Science 265:808.

Lee, J. C. et al. (1994) Nature 372:739.

Salvador, J.M. et al. (2005) Nat Immunol. 6(4):390.

Jirmanova, L. et al. (2009) Blood 113(10):2229.

## **Peptide Sequence:**

Phospho-p38 $\alpha$  MAP Kinase (Tyr-323) synthetic peptide corresponding to amino acid residues surrounding tyrosine 323 in mouse p38 $\alpha$ . This peptide sequence is highly conserved in human and rat p38 $\alpha$ , and has high homology to the conserved site in p38 $\beta$ .

## **Buffer and Storage:**

Blocking Peptide is supplied in 50 $\mu$ l phosphate-buffered saline and 0.05% sodium azide. Store at  $-20^{\circ}$ C. Stable for 1 year.

## **Applications:**

Blocking 1:1000

ELISA 50 ng/well

End user should determine optimal concentration dependent on the concentration of the antibody.  
Recommended for blocking antibody reactivity in Western blot and immunocytochemistry.  
ELISA established in 96-well Nunc immunoplates where peptide was bound to plates for 2 hrs in 0.1 M sodium carbonate buffer, pH 8.5.

## **Specificity:**

The peptide is specifically recognized by p38 $\alpha$  (Tyr-323), phospho-specific antibody (PP3411) in ELISA, and has been shown to block the reactivity of PP3411 in Western blot. In addition, the peptide is recommended for use in blocking PP3411 reactivity in immunocytochemistry.

## **Related Products:**

PP3411 p38 $\alpha$  MAP Kinase (Tyr-323), phospho-specific Rabbit Polyclonal

PM1381 p38 $\alpha$  MAP Kinase (C-terminal) Mouse Monoclonal

PM1391 p38 MAP Kinase (Thr-180/Tyr-182), phospho-specific Mouse

MK6050 MAP Kinase Activation Antibody Sampler Kit

EM2061 ERK1/2 (Thr-202/Tyr-204), phospho-specific Mouse Monoclonal

EM2331 ERK1 (C-terminal Region) Mouse Monoclonal

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