

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.

Background 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.

Applications

Blocking 1:1000

ELISA 50 ng/well

End user should determine optimal dilution for their particular applications and experiments.

Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

Specificity

The peptide is specifically recognized by p38 α (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.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

Peptide Sequence

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

Buffer and Storage

Blocking Peptide is supplied in 50 μ l phosphate-buffered saline and 0.05% sodium azide. Store at -20°C . Stable for 1 year.

Related Products

EM2331 ERK1 (C-terminal region) Mouse Monoclonal

EM2061 ERK1 (Thr-202/Tyr-204)[conserved], phospho-specific Mouse

MK6050 MAP Kinase Activation Antibody Sampler Kit

PM1381 p38 α MAP Kinase (C-terminal) M138 Mouse Monoclonal

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

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