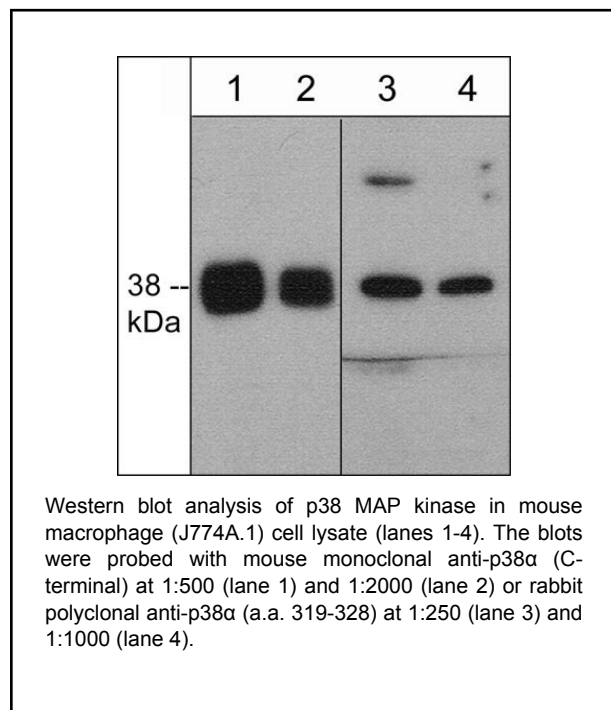


### Background

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

WB	1:1000
ELISA	1:2000

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.

### Species Reactivity

Hu, Rt, Ms, Ck

### Specificity

This antibody was affinity purified using p38 $\alpha$  (a.a. 319-328) peptide (without carrier). The antibody detects a 38 kDa\* band corresponding to p38 $\alpha$  on SDS-PAGE immunoblots of human Jurkat and K562, as well as mouse macrophage (J774A.1) cells.

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

### Immunogen

Uniprot ID: P47811

p38 $\alpha$  MAP Kinase synthetic peptide (coupled to KLH) corresponding to amino acid residues 319 to 328 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

Rabbit polyclonal, affinity-purified antibody is supplied in 100 $\mu$ l phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at  $-20^{\circ}\text{C}$ . Stable for 1 year.

### Related Products

- PM1381 p38 $\alpha$  MAP Kinase (C-terminal) M138 Mouse Monoclonal
- PM1391 p38 MAP Kinase (Thr-180/Tyr-182), phospho-specific Mouse
- PP3411 p38 $\alpha$  MAP Kinase (Tyr-323), phospho-specific Rabbit Polyclonal
- PK6140 p38 MAPK Phospho-Regulation Antibody Sampler Kit
- PX3505 p38 $\alpha$  MAP Kinase (a.a. 319-328) Blocking Peptide

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