

## Background

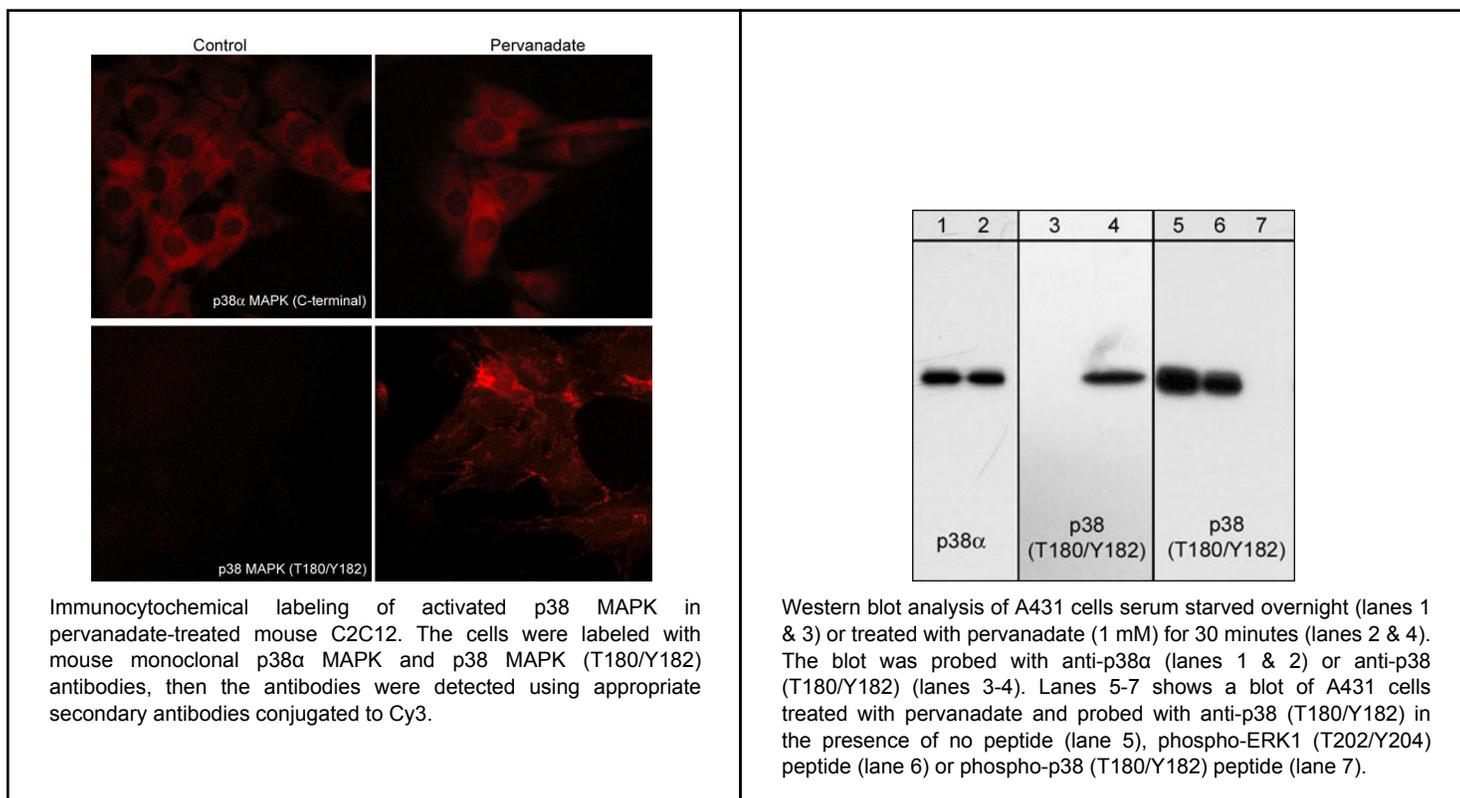
p38 MAP kinase (MAPK), also called RK, CSBP, and SAPK2a, is the mammalian orthologue of the yeast HOG kinase. This family of kinases participates in signaling cascades that control cellular responses to cytokines and stress. Four isoforms of p38 MAPK ( $\alpha, \beta, \gamma, \delta$ ) have been identified. 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 threonine 180 and tyrosine 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.



**Guaranteed  
 to  
 Outperform**

## Background References

- Freshney, N. W. et al. (1994) Cell 78:1039.  
 Han, J. et al. (1994) Science 265:808.  
 Lee, J. C. et al. (1994) Nature 372:739.  
 Rouse, J. et al. (1994) Cell 78:1027.



FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

### Immunogen

Uniprot ID: P70618

Clone M139 was generated from a phospho-p38 $\alpha$  (Thr-180/Tyr-182) synthetic peptide (coupled to KLH) corresponding to amino acid residues around threonine 180 and tyrosine 182 of rat p38 $\alpha$ . This peptide sequence is highly conserved in the p38 $\beta$ ,  $\gamma$ , and  $\delta$  MAPKs, and is identical in human and mouse p38 $\alpha$ .

### Buffer and Storage

Mouse monoclonal purified with protein A chromatography is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Stable for 1 year.

### Product Citations

Nakahara, K. et al. (2019) Biol Pharm Bull. 42(6):1044.  
*WB: mouse microglioma*

Li, W. et al. (2009) AJP Cell Phys. 297:C706.  
*WB: mouse C2C12 cells*

Chambers, M.A. et al. (2009) J Physiol. 587:3363.  
*WB: mouse muscle, C2C12*

### Applications

WB	1:1000
ELISA	1:2000
ICC	1:250

### Species Reactivity

Hu, Rt, Ms

**Isotype:** IgG1

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, Tris buffer, 0.04% Tween20 for 1 hour at room temperature.  
Abbreviations: E = ELISA, ICC = immunocytochemistry, IHC = immunohistochemistry, IP = immunoprecipitation, MS = mass spectrometry, WB = western blot  
Hu = Human, Ms = Mouse, Rt = Rat, Ck = Chicken, F = Frog, B = Bovine

### Specificity

This antibody detects a 38 kDa\* protein corresponding to the apparent molecular mass of p38 $\alpha$  on SDS-PAGE immunoblots of pervanadate treated human Jurkat and A431 cells, as well as anisomycin treated human HeLa cells.

\*All molecular weights (MW) are confirmed by comparison to MW standards and to western blot mobilities of known proteins with similar MW.  
"Native" western blot utilizes non-reducing sample buffer (no mercaptoethanol or SDS), normal SDS-PAGE gel electrophoresis, and no methanol in transfer buffers.

### Related Products

- PM1381 p38 $\alpha$  MAP Kinase (C-terminal) M138 Mouse Monoclonal
- PP3411 p38 $\alpha$  MAP Kinase (Tyr-323), phospho-specific Rabbit Polyclonal
- AM1011 Akt (N-terminal region) Mouse Monoclonal
- AM1141 Akt (Ser-473), phospho-specific Mouse Monoclonal
- AP1001 Akt (Thr-34), phospho-specific Rabbit Polyclonal
- PK6140 p38 MAPK Phospho-Regulation Antibody Sampler Kit



FOR RESEARCH USE ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.