

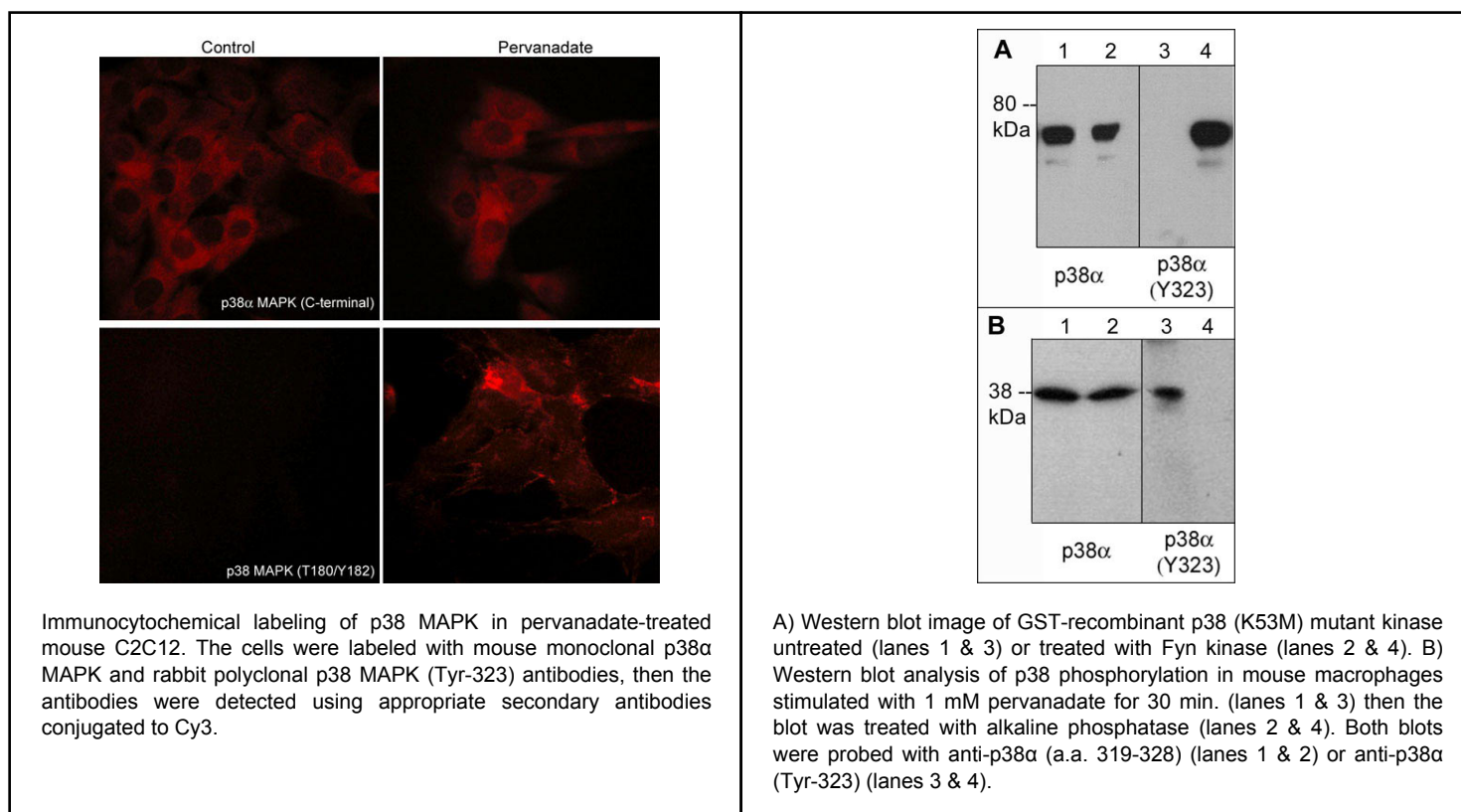
Kit Summary

The p38 phospho-regulation antibody sampler kit can be used to detect p38 phosphorylation at Thr-180/Tyr-182 and Tyr-323. The kit also includes an antibody to examine total p38 expression levels and secondary reagents for rabbit polyclonal and mouse monoclonal antibody detection.

Kit Components

Cat. #	Description	Product Type	Size	Applications	Species Reactivity	WB Dilution
PP3501	p38 α MAP Kinase (a.a. 319-328)	Rabbit pAb	50 μ l	WB, E	Hu, Rt, Ms, Ck	1:1000
PM1381	p38 α MAP Kinase (C-terminal) M138	Mouse mAb	50 μ l	WB, E, ICC	Hu, Rt, Ms	1:1000
PM1391	p38 MAP Kinase (Thr-180/Tyr-182), phospho-specific	Mouse mAb	50 μ l	WB, E, ICC	Hu, Rt, Ms	1:1000
PP3411	p38 α MAP Kinase (Tyr-323), phospho-specific	Rabbit pAb	50 μ l	WB, E, ICC	Hu, Rt, Ms, Ck	1:1000
MS3001	Anti-Mouse Ig:HRP	Donkey pAb	100 μ l	WB, E	Ms	1:5000
RS3251	Anti-Rabbit Ig Light-Chain Specific:HRP	Mouse mAb	100 μ l	WB, E, ICC, IHC	Rb	1:5000

Applications: WB = Western blot, E = ELISA, ICC = Immunocytochemistry, IP = Immunoprecipitation, IHC = Immunohistochemistry, FC = Flow Cytometry
Species: H = Human, R = Rat, Ms = Mouse, C = Chicken, F = Fish, Fr = Frog, Rb = Rabbit



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

Buffer and Storage

Mouse monoclonal and rabbit polyclonal antibodies are supplied in phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. The secondary reagents are supplied in the same buffer without azide. Store all at -20°C . Stable for 1 year.

Product Citations

<u>Cat. #</u>	<u>Citation & Application</u>
PM1381	Nakahara, K. et al. (2019) Biol Pharm Bull. 42(6):1044. (WB: mouse microglioma)
PM1381	Elizondo, DM et al. (2016) J Leukoc Biol. 100(5):855. (WB: mouse dendritic cells)
PM1391	Nakahara, K. et al. (2019) Biol Pharm Bull. 42(6):1044. (WB: mouse microglioma)
PM1391	Li, W. et al. (2009) AJP Cell Phys. 297:C706. (WB: mouse C2C12 cells)
PM1391	Chambers, M.A. et al. (2009) J Physiol. 587:3363. (WB: mouse muscle, C2C12)
PP3411	Alam, M.S. et al. (2015) Nat Medicine 21:1337. (WB, ICC, IHC: human T-cells, CD3 activated)
PP3411	Lanna, A. et al. (2014) Nat Immunol. 15(10):965. (WB: human T-cells, CD3 activated)
MS3001	Estrada-Bernal, A. et al. (2011) J Neurooncol. 102:353. (Western blot: MDCK epithelial, A549, and HEK293)
RS3251	Kawasaki, H. et al. (2013) World J Gastroenter. 19(17):2629. (WB, ICC: mouse intestinal myofibroblasts and)
RS3251	Estrada-Bernal, A. et al. (2011) J Neurooncol. 102:353. (Western blot)

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