

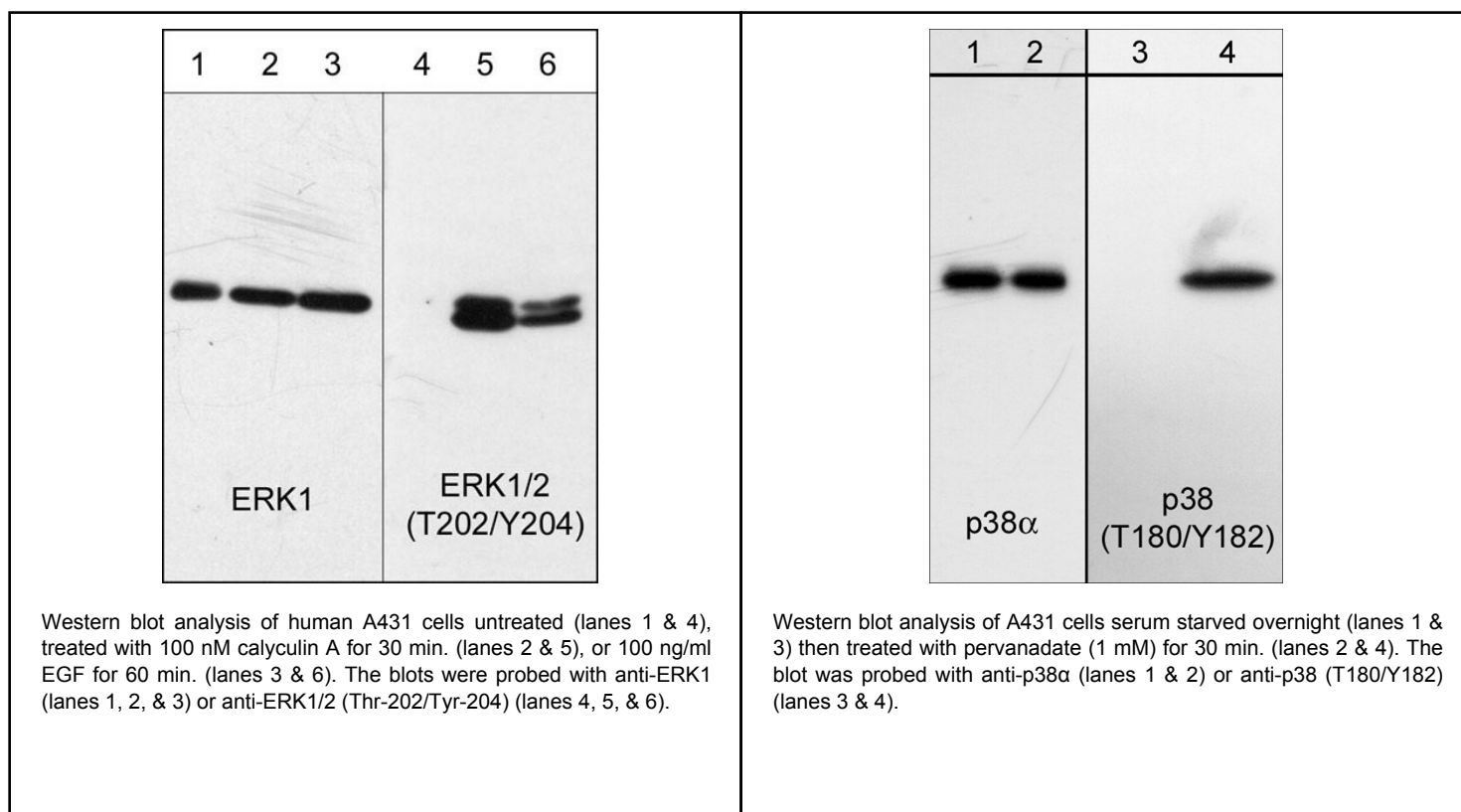
### Kit Summary

The MAP kinase activation antibody sampler kit can be used to examine the activation of three major MAPKs: p38, ERK, and JNK. The kit also includes antibodies to monitor total expression levels of p38, ERK1/2, and JNK1.

### Kit Components

Cat. #	Description	Product Type	Size	Applications	Species Reactivity	WB Dilution
EM2331	ERK1 (C-terminal region)	Mouse mAb	50 µl	WB, E, ICC, IHC	Hu, Rt, Ms	1:1000
EM2061	ERK1 (Thr-202/Tyr-204)[conserved], phospho-specific	Mouse mAb	50 µl	WB, E, ICC	Hu, Rt, Ms	1:1000
JM2671	JNK1 (C-terminal region)	Mouse mAb	50 µl	WB, E, ICC, IHC	Hu, Rt, Ms	1:1000
JM2681	JNK (Thr-183/Tyr-185), phospho-specific	Mouse mAb	50 µl	WB, E, ICC	Hu, Rt, Ms	1:1000
PM1381	p38α MAP Kinase (C-terminal) M138	Mouse mAb	50 µl	WB, E, ICC	Hu, Rt, Ms	1:1000
PM1391	p38 MAP Kinase (Thr-180/Tyr-182), phospho-specific	Mouse mAb	50 µl	WB, E, ICC	Hu, Rt, Ms	1:1000

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

Mitogen-activated protein kinases (MAPKs) are a widely conserved family of serine/threonine protein kinases that include three major MAPKs: p38, JNK, and ERK. These MAPKs are involved in many cellular programs such as cell proliferation, differentiation, motility, and death. Upon stimulation, the MAPKs are activated through a sequential protein kinase cascade consisting of MAPKKKs activating MAPKKs followed by dual phosphorylation and activation of MAPKs. p38 and JNK MAPKs participate in signaling cascades that control cellular responses to cytokines and stress. Activated p38 MAPK has been shown to phosphorylate and activate MAPKAP kinase 2 and to phosphorylate the transcription factors ATF-2, Max, and MEF2. Active JNK dimers can translocate to the nucleus to regulate transcription through phosphorylation of c-Jun, ATF-2, and other transcription factors. The ERK1/2 (p44/42) signaling pathway can be activated in response to a diverse range of extracellular stimuli including mitogens, growth factors, and cytokines. Activated ERKs have several downstream targets including p90RSK and Elk-1.

## Background References

- Murphy, L.O. & Blenis, J. (2006) Trends Biochem Sci 31:268.  
Owens, D.M. & Keyse, S.M. (2007) Oncogene 26:3203.

## Buffer and Storage

Mouse monoclonal are supplied in phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at  $-20^{\circ}\text{C}$ . Stable for 1 year.

## Product Citations

<b>Cat. #</b>	<b>Citation &amp; Application</b>
EM2331	Elizondo, DM et al. (2016) J Leukoc Biol. 100(5):855. (WB: mouse dendritic cells)
EM2331	Kyjacova, L. et al. (2015) Cell Death Differ. 22(6):898. (WB: human DU145)
EM2061	Elizondo, DM et al. (2019) Front Immunol. 10:173. (WB: mouse dendritic cells)
EM2061	Park, K. et al. (2013) Mol Cell Biol. 33(4):752. (WB: human keratinocytes)
JM2671	Su, KH et al. (2016) Nat Cell Biol. 18(5):527. (WB/IP: mouse liver, HEK293)
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)

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