Store at -20°C

#3679

MSK2 (D41A4) XP™ Rabbit mAb

☑ 100 µl
(10 western blots)

Cell Signaling TECHNOLOGY®

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rev. 01/26/10

Entrez-Gene ID #8986
Swiss-Prot Acc. #O75676

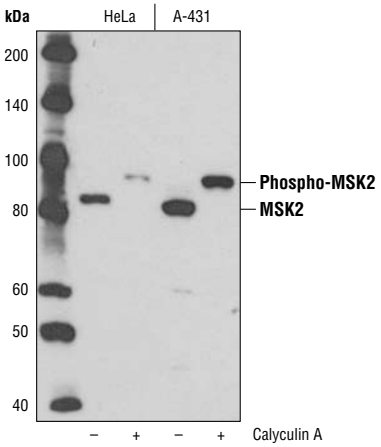
Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP, IF-IC Endogenous	H	85, 90 kDa	Rabbit IgG**

Background: Mitogen- and stress-activated protein kinase 1 (MSK1) and MSK2 are serine/threonine kinases that promote immediate early gene transcription in stress- or mitogen-induced cells (1-4,7, 8) and LPS-stimulated macrophages (9). MSK2, also known as RSKB, contains two catalytic domains and has been shown to interact directly with p38 MAP kinase (10). MSK2 is phosphorylated and activated in response to tumor necrosis factor, epidermal growth factor or phorbol ester in HeLa cells or murine embryonic fibroblasts (MEFs) in a p38- and ERK-dependent manner (8,11). Phosphorylation on residues Ser196 and Thr568 within the activation loop of both catalytic domains is required for full kinase activation (11).

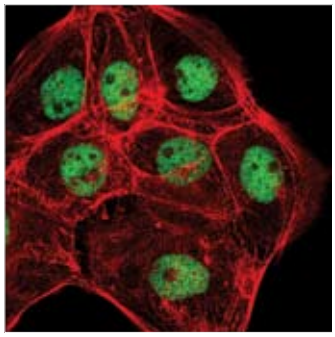
Both MSK1 and MSK2 contain a functional nuclear localization sequence that is sufficient and required for nuclear targeting (10). Consistent with their nuclear localization, these kinases play an important role in regulating transcriptional responses to stress and mitogens. Activation of MSK2 in HeLa cells or MEFs results in rapid phosphorylation of histone H3, HMG-14, CREB and ATF1 and acetylation of histone H3 associated with immediate early gene transcription (3,4,6,7).

Specificity/Sensitivity: MSK2 (D41A4) XP™ Rabbit mAb detects endogenous levels of total MSK2 protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide (KLH-coupled) derived from a region surrounding Pro751 of human MSK2.



Western blot analysis of extracts from HeLa and A-431 cells, untreated or treated with Calyculin A #9902 (100 nM, 30 minutes), using MSK2 (D41A4) XP™ Rabbit mAb.



Confocal immunofluorescent analysis of A-431 cells using MSK2 (D41A4) XP™ Rabbit mAb (green). Actin filaments have been labeled with DY-554 phalloidin (red). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. *Do not aliquot the antibody.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:50
Immunofluorescence (IF-IC)	1:200

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

(1) Ananieva, O. et al. (2008) *Nat Immunol* 9, 1028–36.
(2) Sury, M.D. et al. (2006) *Free Radic Biol Med* 41, 1372–83.
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(4) Darragh, J. et al. (2005) *Biochem J* 390, 749–59.
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(6) Davie, J.R. (2003) *Sci STKE* 2003, PE33.
(7) Soloaga, A. et al. (2003) *EMBO J* 22, 2788–97.
(8) Wiggin, G.R. et al. (2002) *Mol Cell Biol* 22, 2871–81.
(9) Caivano, M. and Cohen, P. (2000) *J Immunol* 164, 3018–25.
(10) Tomás-Zuber, M. et al. (2001) *J Biol Chem* 276, 5892–9.
(11) Tomás-Zuber, M. et al. (2000) *J Biol Chem* 275, 23549–58.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—Horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.