Store at -20°C

Phospho-ATF-2 (Thr71)/ATF-7 (Thr53) (A8J7P) Rabbit mAb

#15411

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New 01/19

Entrez-Gene ID #1368, 11016
UniProt ID #P15336, P17544

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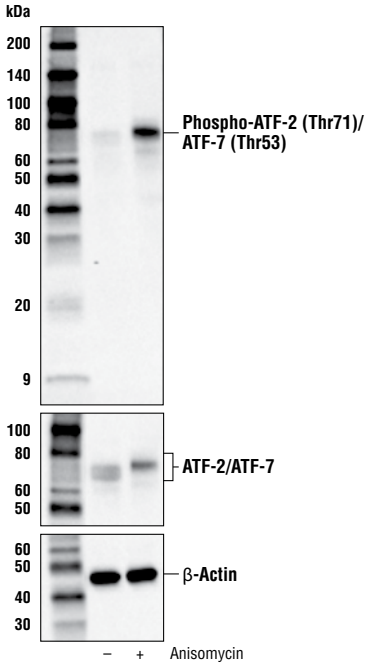
Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, F Endogenous	H, M, R, Mk	65,75 kDa	Rabbit IgG**

Background: The transcription factor ATF-2 (also called CRE-BP1) binds to both AP-1 and CRE DNA response elements and is a member of the ATF/CREB family of leucine zipper proteins (1). ATF-2 interacts with a variety of viral oncoproteins and cellular tumor suppressors and is a target of the SAPK/JNK and p38 MAP kinase signaling pathways (2-4). Various forms of cellular stress, including genotoxic agents, inflammatory cytokines, and UV irradiation, stimulate the transcriptional activity of ATF-2. Cellular stress activates ATF-2 by phosphorylation of Thr69 and Thr71 (2-4). Both SAPK and p38 MAPK have been shown to phosphorylate ATF-2 at these sites *in vitro* and in cells transfected with ATF-2. Mutations of these sites result in the loss of stress-induced transcription by ATF-2 (2-4). In addition, mutations at these sites reduce the ability of E1A and Rb to stimulate gene expression via ATF-2 (2). ATF-7 is another member of the ATF/CREB family of leucine zipper proteins (5). Similarly, Thr51 and Thr53 (corresponding to Thr69 and Thr71 of ATF-2, respectively) can be phosphorylated under different conditions (6, 7).

Specificity/Sensitivity: Phospho-ATF-2 (Thr71)/ATF-7 (Thr53) (A8J7P) Rabbit mAb detects endogenous levels of ATF-2 and ATF-7 only when phosphorylated at threonine 71 and threonine 53, respectively. This antibody does not cross-react with phosphorylated c-Jun, CREB, or other transcription factors. It recognizes Thr69/Thr71 dually phosphorylated ATF-2, Thr51/Thr53 dually phosphorylated ATF-7, Thr71 singly phosphorylated ATF-2, and Thr53 singly phosphorylated ATF-7 equally well.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr71 of human ATF-2 protein.



Western blot analysis of extracts from NIH/3T3 cells, untreated (-) or treated with Anisomycin (25 µg/ml, 30 min; +), using Phospho-ATF-2 (Thr71)/ATF-7 (Thr53) (A8J7P) Rabbit mAb (upper), ATF-2/ATF-7 (A9G1M) Rabbit mAb #82870 (middle), or β-Actin (D6A8) Rabbit mAb #8457 (lower).

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
Flow Cytometry	1:1600

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com.

Background References:

(1) Abdel-Hafiz, H.A. et al. (1992) *Mol Endocrinol* 6, 2079-89.
(2) Gupta, S. et al. (1995) *Science* 267, 389-93.
(3) van Dam, H. et al. (1995) *EMBO J* 14, 1798-811.
(4) Livingstone, C. et al. (1995) *EMBO J* 14, 1785-97.
(5) Peters, C.S. et al. (2001) *J Biol Chem* 276, 13718-26.
(6) Camuzeaux, B. et al. (2008) *J Mol Biol* 384, 980-91.
(7) Maekawa, T. et al. (2010) *EMBO J* 29, 196-208.

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.

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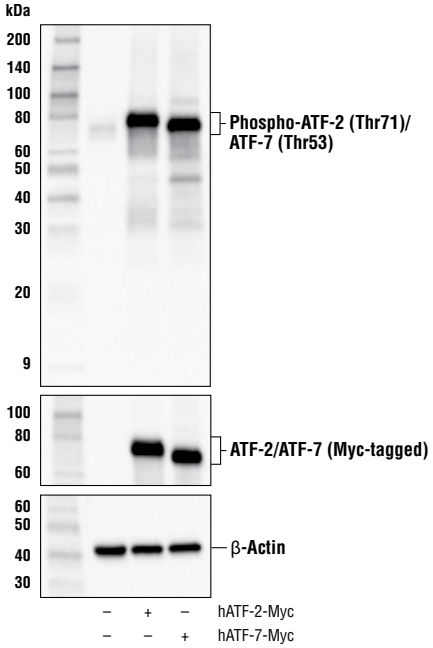
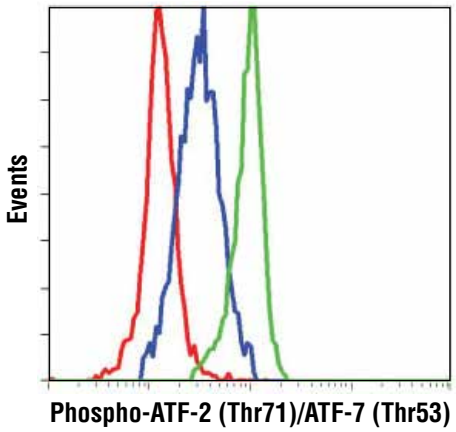
Applications: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide **Species Cross-Reactivity:** **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **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.



Western blot analysis of extracts from HeLa cells, mock transfected (-) or transfected with a construct expressing Myc-tagged full-length human ATF-2 protein (hATF-2-Myc; +) or a construct expressing Myc-tagged full-length human ATF-7 protein (hATF-7-Myc; +), using Phospho-ATF-2 (Thr71)/ATF-7 (Thr53) (A8J7P) Rabbit mAb (upper), Myc-Tag (71D10) Rabbit mAb #2278 (middle), and β-Actin (D6A8) Rabbit mAb #8457 (lower).



Flow cytometric analysis of THP-1 cells, untreated (blue) or Anisomycin treated (green), using Phospho-ATF-2 (Thr71)/ATF-7 (Thr53) (A8J7P) Rabbit mAb compared to a nonspecific negative control antibody (red).