Store at -20°C

#40749

Phospho-ATF-2 (Thr69/71)/ATF-7 (Thr51/53) Antibody

Support: +1-978-867-2388 (U.S.)
www.cellsignal.com/support

Orders: 877-616-2355 (U.S.)
orders@cellsignal.com

New 01/19

Entrez-Gene ID #1386, 11016
UniProt ID #P15336, P17544

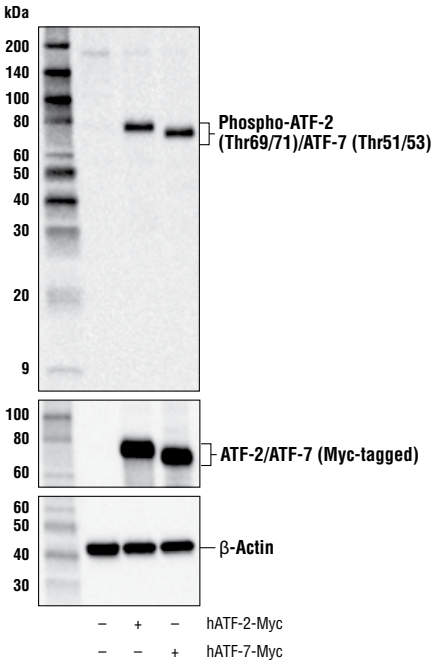
For Research Use Only. Not For Use In Diagnostic Procedures.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IHC-P	H, M, R, Mk	65, 75 kDa	Rabbit**
Endogenous			

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 (Thr69/71)/ATF-7 (Thr51/53) Antibody detects endogenous levels of ATF-2 only when dually phosphorylated at both Thr69 and Thr71, and ATF-7 only when dually phosphorylated at both Thr51 and Thr53. It does not recognize ATF-2 singly phosphorylated at either Thr69 or Thr71, and it does not recognize ATF-7 singly phosphorylated at either Thr51 or Thr53.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Thr69 and Thr71 of human ATF-2. Antibodies are purified by protein A and peptide affinity chromatography.



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 (Thr69/71)/ATF-7 (Thr51/53) Antibody (upper), Myc-Tag (71D10) Rabbit mAb #2278 (middle), and β-Actin (D6A8) Rabbit mAb #8457 (lower).

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. 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
Immunohistochemistry (Paraffin)	1:100

Optimal IHC dilutions determined using SignalStain® Boost IHC Detection Reagent.
Unmasking buffer: SignalStain® Citrate Unmasking Solution (10X) #14746
Antibody diluent: SignalStain® Antibody Diluent #8112
Detection reagent: SignalStain® Boost (HRP, Rabbit) #8114

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

Background References:

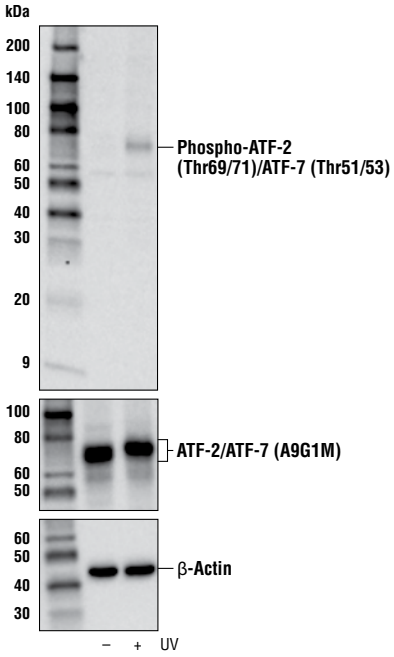
(1) Abdel-Hafiz, H.A. et al. (1992) *Mol Endocrinol* 6, 2079-89.
(2) Gupta, S. et al. (1995) *Science* 267, 389-93.
(3) van Dam, H. et al. (1995) *EMBO J* 14, 1798-811.
(4) Livingstone, C. et al. (1995) *EMBO J* 14, 1785-97.
(5) Peters, C.S. et al. (2001) *J Biol Chem* 276, 13718-26.
(6) Camuzeaux, B.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

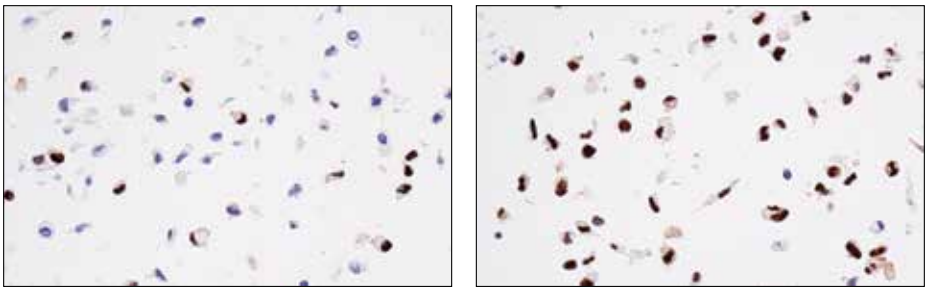
Thank you for your recent purchase. If you would like to provide a review visit cellsignal.com/comments.

www.cellsignal.com

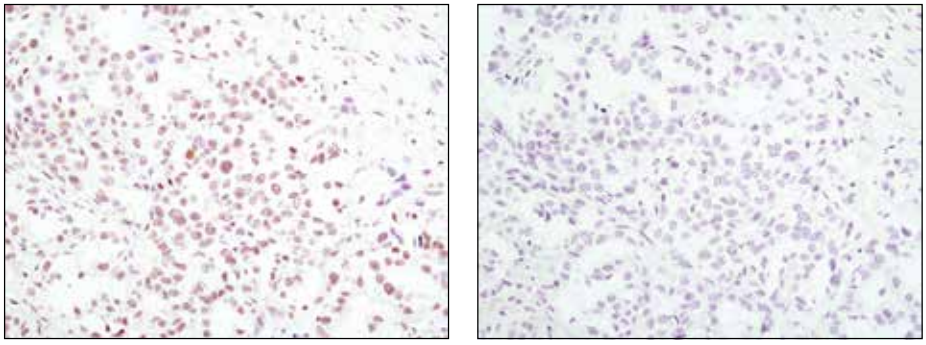
Applications: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide **Species Cross-Reactivity:** **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken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



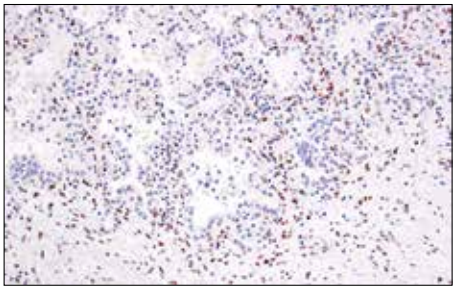
Western blot analysis of extracts from 293T cells, untreated (-) or UV-treated (50 mJ/cm², 20 min recovery; +), using Phospho-ATF-2 (Thr69/71)/ATF-7 (Thr51/53) Antibody (upper), ATF-2/ATF-7 (A9G1M) Rabbit mAb #82870 (middle), or β-Actin (D6A8) Rabbit mAb #8457 (lower)



Immunohistochemical analysis of paraffin-embedded NIH/3T3 cell pellet, untreated (left) or treated with Anisomycin #2222 (right), using Phospho-ATF-2 (Thr69/71)/ATF-7 (Thr51/53) Antibody.



Immunohistochemical analysis of paraffin-embedded human lung adenocarcinoma, untreated (left) or lambda phosphatase treated (right), using Phospho-ATF-2 (Thr69/71)/ATF-7 (Thr51/53) Antibody.



Immunohistochemical analysis of paraffin-embedded human non-small cell lung carcinoma using Phospho-ATF-2 (Thr69/71)/ ATF-7 (Thr51/53) Antibody.