Revision 1

Store at -20C

#24329

Phospho-ATF-2 (Thr71)/ATF-7 (Thr53) Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP, IHC-P, IF-IC, FC-FP	H M R Mk	Endogenous	65,75	Rabbit	#P17544, #P15336	11016, 1386

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:250
Immunohistochemistry (Paraffin)	1:50
Immunofluorescence (Immunocytochemistry)	1:50
Flow Cytometry (Fixed/Permeabilized)	1:50

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.

Specificity/Sensitivity

Phospho-ATF-2 (Thr71)/ATF-7 (Thr53) Antibody 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

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

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).

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.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

W: Western Blotting **IP:** Immunoprecipitation **IHC-P:** Immunohistochemistry (Paraffin) **IF-IC:** Immunofluorescence (Immunocytochemistry) **FC-FP:** Flow Cytometry (Fixed/Permeabilized)

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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