

Product Information



ATF2 (Phospho-Ser^{490,498}) Polyclonal Antibody

Catalog No. 10009410

Synonym:	Activating Transcription Factor 2
Supplied as:	100 µl of affinity-purified antibody in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg BSA per ml and 50% glycerol
Host:	Rabbit
Antigen:	Synthetic phosphopeptide corresponding to amino acid residues surrounding phospho-Ser ^{490,498} of human ATF2.
Cross Reactivity:	(+) Human ATF2; expected to react with rat ATF2
Stability:	≥1 year at -20°C
Application:	The recommended starting dilution for western blot and immunohistochemistry (frozen sections) is 1:1,000. Other applications were not attempted and therefore optimal working dilutions should be determined empirically.

The activating transcription factor 2 (ATF2; 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 ATF2 has been implicated in the transcriptional regulation of a number of genes including cytokines, cell cycle control, and apoptosis. Various forms of cellular stress, including inflammatory cytokines and UV irradiation, stimulate the transcriptional activity of ATF2.^{2,3} Stress-induced ATF-dependent transcription is dependent on phosphorylation of ATF.^{3,4} Serine 490 and serine 498 are novel phosphorylation sites on ATF that have recently been identified. ATF2 is particularly abundant in the brain and the ATF2 family of transcription factors is considered an important substrate of signals upstream of the activation of genes associated with neuronal growth and differentiation.⁵ ATF expression has also been linked to depression in humans.⁶

References

1. Maekawa, T., Sakura, H., Kanei-Ishii, C., *et al.* Leucine zipper structure of the protein CRE-BP1 binding to the cyclic AMP response element in brain. *EMBO J.* **8**, 2023-2028 (1989).
2. Ivanov, V.N., Bhoomik, A., and Ronai, Z. Death receptors and melanoma resistance to apoptosis. *Oncogene* **22**, 3152-3161 (2003).
3. Morton, S., Davis, R.J., and Cohen, P. Signalling pathways involved in multisite phosphorylation of the transcription factor ATF2. *FEBS Lett.* **572**, 177-183 (2004).
4. Fuchs, S.Y., Tappin, I., and Ronai, Z. Stability of the ATF2 transcription factor is regulated by phosphorylation and dephosphorylation. *J. Biol. Chem.* **275**, 12560-12564 (2000).
5. Karin, M. and Hunter, T. Transcriptional control by protein phosphorylation: Signal transmission from the cell surface to the nucleus. *Curr. Biol.* **5**, 747-757 (1995).
6. Laifenfeld, D., Karry, R., Grauer, E., *et al.* ATF2, a member of the CREB/ATF family of transcription factors, in chronic stress and consequent to antidepressant treatment: Animal models and human post-mortem brains. *Neuropsychopharmacology* **29**, 589-597 (2004).

Related Products

5-Lipoxygenase (Phospho-Ser⁵²³) Polyclonal Antibody - Cat. No. 10007820 • p38 MAPK (Phospho-Thr¹⁸⁰/Tyr¹⁸²) Polyclonal Antibody - Cat. No. 10009177 • MEK 1/2 (Phospho-Ser^{218,222}) Polyclonal Antibody - Cat. No. 10009178 • ERK/MAPK (Phospho-Thr²⁰²/Tyr²⁰⁴) Polyclonal Antibody - Cat. No. 10009179 • β-Catenin (Phospho-Ser^{33,37}) Polyclonal Antibody - Cat. No. 10009180 • CREB (Phospho-Ser¹³³) Polyclonal Antibody - Cat. No. 10009181 • GSK3β (Phospho-Ser⁹) Polyclonal Antibody - Cat. No. 10009374

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