



Anti-Phospho-Ser^{490,498} ATF2

Catalog Number: SY-p115-4908

Size: 100 µl

\$375.00

Product Description: Affinity purified rabbit polyclonal antibody

Applications: **WB:** 1:1000

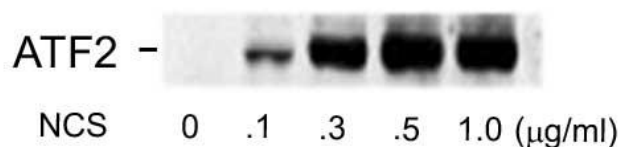
IHC (frozen sections; unpublished observations): 1:1000

Antigen: Synthetic phosphopeptide corresponding to amino acid residues surrounding the phospho-Ser^{490,498} of human ATF2.

Species reactivity: The antibody has been directly tested for reactivity in Western blots with human tissue. It is anticipated that the antibody will react with rat based on the fact that this species has 100% homology with the amino acid sequence used as antigen.

Biological Significance: The activating transcription factor 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 (Maekawa et al., 1989). 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 (Ivanov et al., 2003; Morton et al., 2004). Stress induced ATF-dependent transcription is dependent on phosphorylation of ATF (Fuchs et al., 2000); Morton et al., 2004). 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 (Karin and Hunter, 1995). ATF expression has also been linked to the depression in humans (Laifenfeld et al., 2004).

Anti-Phospho Ser^{490,498} ATF2



Western blot of human melanoma cells incubated with varying doses of the radiomimetic drug NCS showing specific immunolabeling of the ~74k ATF2 protein phosphorylated at Ser⁴⁹⁰ and Ser⁴⁹⁸.

WB = Western Blot **IF** = Immunofluorescence **IHC** = Immunohistochemistry **IP** = Immunoprecipitation

Packaging: 100 µl in 10 mM HEPES (pH 7.5), 150 mM NaCl, 100 µg BSA per ml and 50% glycerol. Adequate amount of material to conduct 10-mini Western Blots.

Storage and Stability. For long term storage -20°C is recommended. Stable at -20°C for at least 1 year.

Shipment: Domestic - Blue Ice; International - Dry Ice.

Purification Method: Prepared from rabbit serum by affinity purification via sequential chromatography on phospho- and dephosphopeptide affinity columns.

Antibody Specificity: Specific for ~74k ATF2 protein phosphorylated at Ser^{490,498}. The antibody also recognizes the phosphorylated ~54k splice form of ATF2.

Quality Control Tests: Western blots performed on each lot.

References:

- Fuchs SY, Tappin I, Ronai Z (2000) Stability of the ATF2 transcription factor is regulated by phosphorylation and dephosphorylation. *J Biol Chem* 275:12560-12564.
- Ivanov VN, Bhoumik A, Ronai Z (2003) Death receptors and melanoma resistance to apoptosis. *Oncogene* 22:3152-3161.
- Karin M, Hunter T (1995) Transcriptional control by protein phosphorylation: Signal transmission from the cell surface to the nucleus. *Curr Biol* 5:747-757.
- Laifenfeld D, Karry R, Grauer E, Klein E, Ben-Shachar D (2004) 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.
- Maekawa T, Sakura H, Kanei-Ishii C, Sudo T, Yoshimura T, Fujisawa J, Yoshida M, Ishii S (1989) Leucine zipper structure of the protein CRE-BP1 binding to the cyclic AMP response element in brain. *EMBO J* 8:2023-2028.
- Morton S, Davis RJ, Cohen P (2004) Signalling pathways involved in multisite phosphorylation of the transcription factor ATF2. *FEBS Lett* 572:177-183.

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