

ATF-1 (FI-1): sc-241

BACKGROUND

Eukaryotic gene transcription is regulated by sequence-specific transcription factors that bind modular *cis* acting promoter and enhancer elements. The ATF/CREB transcription factor family binds the palindromic cAMP response element (CRE) octanucleotide TGACGTC A. The ATF/CREB family includes CREB-1, CREB-2 (also designated ATF-4), ATF-1, ATF-2 and ATF-3. This family of proteins contain highly divergent N-terminal domains, but share a C-terminal leucine zipper for dimerization and DNA binding. ATF-1 is shown to play a key role in the induction of NOX1, this protein binds the cAMP response element (CRE) and mediates PKA-induced stimulation of CRE-reporter genes. ATF-2 forms homodimers and heterodimers with c-Jun to initiate CRE-dependent transcription. Phosphorylation of ATF-2 at Thr 69 and Thr 71 by stress-activated kinases is necessary for transcriptional activation. Myc also induces phosphorylation of ATF-2 at Thr 69 and Thr 71 to prolong the half-life of ATF-2. ATF-2 functions as a histone acetyltransferase (HAT) and acetylates Histones H2B and H4 specifically *in vitro*.

CHROMOSOMAL LOCATION

Genetic locus: ATF1 (human) mapping to 12q13.12.

SOURCE

ATF-1 (FI-1) is a mouse monoclonal antibody raised against a synthetic peptide consisting of the g10/YEK sequences.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-241 X, 200 µg/0.1 ml.

APPLICATIONS

ATF-1 (FI-1) is recommended for detection of ATF-1 p35 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for ATF-1 siRNA (h): sc-29754, ATF-1 shRNA Plasmid (h): sc-29754-SH and ATF-1 shRNA (h) Lentiviral Particles: sc-29754-V.

ATF-1 (FI-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of ATF-1: 35 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201, HeLa whole cell lysate: sc-2200 or HeLa nuclear extract: sc-2120.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

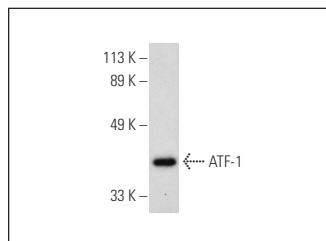
PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



ATF-1 (FI-1): sc-241. Western blot analysis of human recombinant ATF-1.

SELECT PRODUCT CITATIONS

- Nakamura, T., et al. 1995. Down-regulation of the cyclin A promoter in differentiating human embryonal carcinoma cells is mediated by depletion of ATF-1 and ATF-2 in the complex at the ATF/CRE site. *Exp. Cell Res.* 216: 422-430.
- Ye, J., et al. 2001. Activation of mitogen-activated protein kinase p38 and extracellular signal-regulated kinase is involved in glass fiber-induced tumor necrosis factor- α production in macrophages. *J. Biol. Chem.* 276: 5360-5367.
- He, F., et al. 2003. DNA polymerase β gene expression: the promoter activator CREB-1 is upregulated in Chinese hamster ovary cells by DNA alkylating agent-induced stress. *Biol. Chem.* 384: 19-23.
- Li, X., et al. 2004. Hormonal regulation of lactate dehydrogenase-A through activation of protein kinase C pathways in MCF-7 breast cancer cells. *Biochem. Biophys. Res. Commun.* 320: 625-634.
- Kudo, T., et al. 2005. Regulation of RANTES promoter activation in gastric epithelial cells infected with *Helicobacter pylori*. *Infect. Immun.* 73: 7602-7612.
- Felton-Edkins, Z.A., et al. 2006. Epstein-Barr virus induces cellular transcription factors to allow active expression of EBV genes by RNA polymerase III. *J. Biol. Chem.* 281: 3387-33880.
- Giuliani, C., et al. 2010. Regulation of major histocompatibility complex gene expression in thyroid epithelial cells by methimazole and phenylmethimazole. *J. Endocrinol.* 204: 57-66.
- Li, H., et al. 2016. Characterization of KIR intermediate promoters reveals four promoter types associated with distinct expression patterns of KIR subtypes. *Genes Immun.* 17: 66-74.

CONJUGATES

See **ATF-1 (25C10G): sc-270** for ATF-1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.