

ATF-1 (25C10G): sc-270

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 TGACGTCA. 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*.

SOURCE

ATF-1 (25C10G) is a mouse monoclonal antibody raised against amino acids 39-271 mapping within the DNA binding and dimerization domain of ATF-1 p35 of human origin.

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-270 X, 200 µg/0.1 ml.

ATF-1 (25C10G) is available conjugated to agarose (sc-270 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-270 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-270 PE), fluorescein (sc-270 FITC), Alexa Fluor® 488 (sc-270 AF488), Alexa Fluor® 546 (sc-270 AF546), Alexa Fluor® 594 (sc-270 AF594) or Alexa Fluor® 647 (sc-270 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-270 AF680) or Alexa Fluor® 790 (sc-270 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

ATF-1 (25C10G) is recommended for detection of ATF-1 p35, CREB-1 p43 and CREM-1 of mouse, rat and 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

ATF-1 (25C10G) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

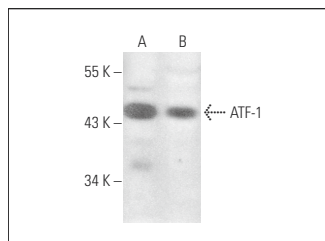
Molecular Weight of ATF-1: 35 kDa.

Positive Controls: KNRK nuclear extract: sc-2141, A-431 whole cell lysate: sc-2201 or HeLa whole cell lysate: sc-2200.

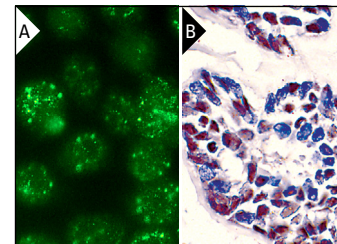
STORAGE

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

DATA



ATF-1 (25C10G): sc-270. Western blot analysis of ATF-1 expression in A-431 nuclear extract (A) and THP-1 whole cell lysate (B).



ATF-1 (25C10G): sc-270. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tumor showing nuclear localization (B).

SELECT PRODUCT CITATIONS

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- Liu, X., et al. 2010. Phorbol ester-induced human cytomegalovirus major immediate-early (MIE) enhancer activation through PKC-δ, CREB, and NFκB desilences MIE gene expression in quiescently infected human pluripotent Ntera2 cells. *J. Virol.* 84: 8495-8508.
- van der Gun, B.T., et al. 2011. Transcription factors and molecular epigenetic marks underlying EpCAM overexpression in ovarian cancer. *Br. J. Cancer* 105: 312-319.
- Presnell, S.R., et al. 2012. Differential transcription factor use by the KIR2DL4 promoter under constitutive and IL-2/15-treated conditions. *J. Immunol.* 188: 4394-4404.
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- Tambe, M.A., et al. 2019. N-glycanase 1 transcriptionally regulates aquaporins independent of its enzymatic activity. *Cell Rep.* 29: 4620-4631.e4.
- Mbondji-Wonje, C., et al. 2020. Genetic variability of the U5 and downstream sequence of major HIV-1 subtypes and circulating recombinant forms. *Sci. Rep.* 10: 13214.
- Wang, X., et al. 2022. Antibody-free profiling of transcription factor occupancy during early embryogenesis by FitCUT&RUN. *Genome Res.* 32: 378-388.
- He, B., et al. 2023. Cancer cell employs a microenvironmental neural signal trans-activating nucleus-mitochondria coordination to acquire stemness. *Signal Transduct. Target. Ther.* 8: 275.

RESEARCH USE

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