SANTA CRUZ BIOTECHNOLOGY, INC.

ATF-5 (E-10): sc-377168

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 best characterized members of this gene family include CREB-1, CREB-2 (also designated ATF-4), CRE-BPa, LZIP (also designated CREB3 and Luman), CREM-1, CREM-2, ATF-1, ATF-2, ATF-3, ATF-5, ATF-6 and ATF-7. This family of proteins contain highly divergent N-terminal domains, but share a C-terminal leucine zipper for dimerization and DNA binding. ATF-5 (ATFx), which can localize to the cytoplasm or the nucleus, binds DNA as a dimer. It interacts with CCND3 and PTP4A1.

CHROMOSOMAL LOCATION

Genetic locus: ATF5 (human) mapping to 19q13.33; Atf5 (mouse) mapping to 7 B4.

SOURCE

ATF-5 (E-10) is a mouse monoclonal antibody raised against amino acids 1-83 mapping at the N-terminus of ATF-5 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 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-377168 X, 200 µg/0.1 ml.

ATF-5 (E-10) is available conjugated to agarose (sc-377168 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377168 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377168 PE), fluorescein (sc-377168 FITC), Alexa Fluor® 488 (sc-377168 AF488), Alexa Fluor® 546 (sc-377168 AF546), Alexa Fluor® 594 (sc-377168 AF594) or Alexa Fluor® 647 (sc-377168 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377168 AF680) or Alexa Fluor® 790 (sc-377168 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

ATF-5 (E-10) is recommended for detection of ATF-5 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ATF-5 siRNA (h): sc-43580, ATF-5 siRNA (m): sc-60222, ATF-5 shRNA Plasmid (h): sc-43580-SH, ATF-5 shRNA Plasmid (m): sc-60222-SH, ATF-5 shRNA (h) Lentiviral Particles: sc-43580-V and ATF-5 shRNA (m) Lentiviral Particles: sc-60222-V.

ATF-5 (E-10) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

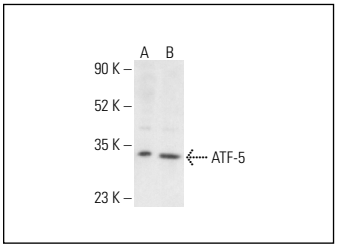
Molecular Weight of ATF-5: 31 kDa.

Positive Controls: SK-N-SH cell lysate: sc-2410 or Neuro-2A whole cell lysate: sc-364185.

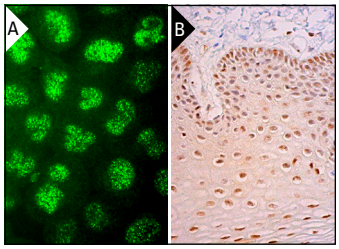
STORAGE

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

DATA



ATF-5 (E-10) HRP: sc-377168 HRP. Direct western blot analysis of ATF-5 expression in Neuro-2A (**A**) and SK-N-SH (**B**) whole cell lysates.



ATF-5 (E-10): sc-377168. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human uterine cervix tissue showing nuclear staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Wu, J., et al. 2016. Functional analysis of the TMPRSS2:ERG fusion gene in cisplatin-induced cell death. Mol. Med. Rep. 13: 3173-3180.
2. Bouttier, M., et al. 2016. Alu repeats as transcriptional regulatory platforms in macrophage responses to *M. tuberculosis* infection. Nucleic Acids Res. 44: 10571-10587.
3. Hernández, I.H., et al. 2017. The neuroprotective transcription factor ATF5 is decreased and sequestered into polyglutamine inclusions in Huntington's disease. Acta Neuropathol. 134: 839-850.
4. Aras, S., et al. 2020. Mitochondrial nuclear retrograde regulator 1 (MNRR1) rescues the cellular phenotype of MELAS by inducing homeostatic mechanisms. Proc. Natl. Acad. Sci. USA 117: 32056-32065.
5. Hurwitz, B., et al. 2022. The integrated stress response remodels the microtubule-organizing center to clear unfolded proteins following proteotoxic stress. Elife 11: e77780.
6. Hu, J.M., et al. 2022. The synergistic cytotoxic effects of GW5074 and sorafenib by impacting mitochondrial functions in human colorectal cancer cell lines. Front. Oncol. 12: 925653.
7. Farooq, Z., et al. 2022. The amino acid sensor GCN2 suppresses terminal oligopyrimidine (TOP) mRNA translation via La-related protein 1 (LARP1). J. Biol. Chem. 298: 102277.
8. Lin, N., et al. 2024. Stress granules affect the dual PI3K/mTOR inhibitor response by regulating the mitochondrial unfolded protein response. Cancer Cell Int. 24: 38.

RESEARCH USE

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