

# ATF-2 (F2BR-1): sc-242

## BACKGROUND

Eukaryotic gene transcription is regulated by sequence-specific transcription factors which 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-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 also functions as a histone acetyltransferase (HAT) by specifically acetylating Histones H2B and H4 *in vitro*.

## REFERENCES

1. Montminy, M.R., et al. 1986. Identification of a cyclic-AMP-responsive element within the rat somatostatin gene. *Proc. Natl. Acad. Sci. USA* 83: 6682-6686.
2. Lin, Y.S. and Green, M.R. 1988. Interaction of a common cellular transcription factor, ATF, with regulatory elements in both E1A- and cyclic AMP-inducible promoters. *Proc. Natl. Acad. Sci. USA* 85: 3396-3400.

## CHROMOSOMAL LOCATION

Genetic locus: ATF2 (human) mapping to 2q31.1; Atf2 (mouse) mapping to 2 C3.

## SOURCE

ATF-2 (F2BR-1) is a mouse monoclonal antibody raised against amino acids 350-505 mapping within the DNA binding and dimerization domain of ATF-2 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> 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-242 X, 200 µg/0.1 ml.

ATF-2 (F2BR-1) is available conjugated to agarose (sc-242 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-242 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-242 PE), fluorescein (sc-242 FITC), Alexa Fluor<sup>®</sup> 488 (sc-242 AF488), Alexa Fluor<sup>®</sup> 546 (sc-242 AF546), Alexa Fluor<sup>®</sup> 594 (sc-242 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-242 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-242 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-242 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA

## STORAGE

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

## APPLICATIONS

ATF-2 (F2BR-1) is recommended for detection of ATF-2 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)] and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

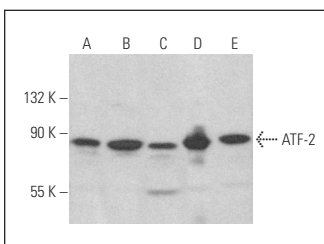
Suitable for use as control antibody for ATF-2 siRNA (h): sc-29205, ATF-2 siRNA (m): sc-29756, ATF-2 siRNA (r): sc-156017, ATF-2 shRNA Plasmid (h): sc-29205-SH, ATF-2 shRNA Plasmid (m): sc-29756-SH, ATF-2 shRNA Plasmid (r): sc-156017-SH, ATF-2 shRNA (h) Lentiviral Particles: sc-29205-V, ATF-2 shRNA (m) Lentiviral Particles: sc-29756-V and ATF-2 shRNA (r) Lentiviral Particles: sc-156017-V.

ATF-2 (F2BR-1) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

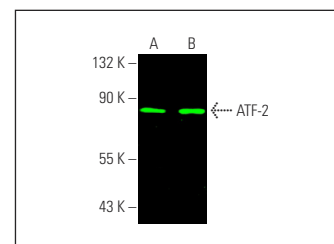
Molecular Weight of ATF-2: 70 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, Jurkat nuclear extract: sc-2132 or HL-60 whole cell lysate: sc-2209.

## DATA



ATF-2 (F2BR-1): sc-242. Western blot analysis of ATF-2 expression in K-562 (A) and Jurkat (B) nuclear extracts and MDA-MB-231 (C), MOLT-4 (D) and HL-60 (E) whole cell lysates.



ATF-2 (F2BR-1) Alexa Fluor<sup>®</sup> 680: sc-242 AF680. Direct near-infrared western blot analysis of ATF-2 expression in K-562 whole cell lysate (A) and Jurkat nuclear extract (B). Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Cruz Marker<sup>™</sup> Molecular Weight Standards detected with Cruz Marker<sup>™</sup> MW Tag-Alexa Fluor<sup>®</sup> 680: sc-516730.

## SELECT PRODUCT CITATIONS

1. De Luca, L.G., et al. 1994. cAMP and tumor necrosis factor competitively regulate transcriptional activation through and nuclear factor binding to the cAMP-responsive element/activation transcription factor element of the endothelial leukocyte adhesion molecule-1 (E-Selectin) promoter. *J. Biol. Chem.* 269: 19193-19196.
2. Lindaman, L.L., et al. 2013. Phosphorylation of ATF2 and interaction with NFY induces c-Jun in the gonadotrope. *Mol. Cell. Endocrinol.* 365: 316-326.
3. Tani, M., et al. 2018. 7-Ketocholesterol enhances leukocyte adhesion to endothelial cells via p38MAPK pathway. *PLoS ONE* 13: e0200499.
4. Brito, D.V.C., et al. 2020. Mimicking age-associated Gadd45y dysregulation results in memory impairments in young adult mice. *J. Neurosci.* 40: 1197-1210.

## RESEARCH USE

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