

ATF-7IP (C-1): sc-166753

The Power to Question

BACKGROUND

ATF-7IP (activating transcription factor 7-interacting protein 1, MBD1-containing chromatin-associated factor 1) is a 1,270 amino acid protein encoded by the human gene ATF7IP. ATF-7IP can both act as an activator or a repressor depending on the context. ATF-7IP functions as a recruiter that couples transcriptional factors to general transcription apparatus and thereby modulates transcription regulation and chromatin formation. It mediates MBD1-dependent transcriptional repression, probably by recruiting complexes containing SETDB1. ATF-7IP is required to stimulate the histone methyltransferase activity of SETDB1 and it facilitates the conversion of dimethylated to trimethylated H3 "Lys-9." The complex formed by ATF-7IP, MBD1 and SETDB1 also acts to couple DNA methylation to histone "Lys-9" trimethylation.

REFERENCES

1. De Graeve, F., Bahr, A., Chatton, B. and Kedinger, C. 2000. A murine ATF-associated factor with transcriptional repressing activity. *Oncogene* 19: 1807-1819.
2. Wang, H., An, W., Cao, R., Xia, L., Erdjument-Bromage, H., Chatton, B., Tempst, P., Roeder, R.G. and Zhang, Y. 2003. mAM facilitates conversion by ESET of dimethyl to trimethyl lysine 9 of Histone H3 to cause transcriptional repression. *Mol. Cell* 12: 475-487.
3. Ichimura, T., Watanabe, S., Sakamoto, Y., Aoto, T., Fujita, N. and Nakao, M. 2005. Transcriptional repression and heterochromatin formation by MBD1 and MCAF/AM family proteins. *J. Biol. Chem.* 280: 13928-13935.
4. Chang, L.K., Chung, J.Y., Hong, Y.R., Ichimura, T., Nakao, M. and Liu, S.T. 2005. Activation of Sp1-mediated transcription by Rta of Epstein-Barr virus via an interaction with MCAF1. *Nucleic Acids Res.* 33: 6528-6539.
5. Uchimura, Y., Ichimura, T., Uwada, J., Tachibana, T., Sugahara, S., Nakao, M. and Saitoh, H. 2006. Involvement of SUMO modification in MBD1- and MCAF1-mediated heterochromatin formation. *J. Biol. Chem.* 281: 23180-23190.
6. McGraw, S., Vigneault, C. and Sirard, M.A. 2007. Temporal expression of factors involved in chromatin remodeling and in gene regulation during early bovine *in vitro* embryo development. *Reproduction* 133: 597-608.
7. Ichimura, T. and Ito, T. 2007. Nuclear atypia and epigenetic change. *Tanpakushitsu Kakusan Koso* 51: 2049-2051.

CHROMOSOMAL LOCATION

Genetic locus: ATF7IP (human) mapping to 12p13.1; Atf7ip (mouse) mapping to 6 G1.

SOURCE

ATF-7IP (C-1) is a mouse monoclonal antibody raised against amino acids 1058-1161 mapping near the C-terminus of ATF-7IP of mouse origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

ATF-7IP (C-1) is recommended for detection of ATF-7IP 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

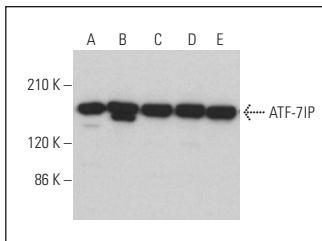
Suitable for use as control antibody for ATF-7IP siRNA (h): sc-96134, ATF-7IP siRNA (m): sc-141319, ATF-7IP shRNA Plasmid (h): sc-96134-SH, ATF-7IP shRNA Plasmid (m): sc-141319-SH, ATF-7IP shRNA (h) Lentiviral Particles: sc-96134-V and ATF-7IP shRNA (m) Lentiviral Particles: sc-141319-V.

Molecular Weight of ATF-7IP: 137 kDa.

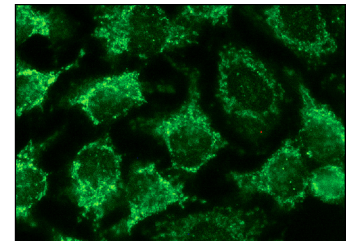
Positive Controls: A549 cell lysate: sc-2413, SK-N-MC cell lysate: sc-2237 or NIH/3T3 nuclear extract: sc-2138.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA

ATF-7IP (C-1): sc-166753. Western blot analysis of ATF-7IP expression in NIH/3T3 nuclear extract (A) and A549 (B), SK-N-MC (C), Raji (D) and Neuro-2A (E) whole cell lysates.



ATF-7IP (C-1): sc-166753. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

STORAGE

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

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.