

ATF4 Recombinant antibody

Catalog Number: 81798-1-RR

Basic Information

Catalog Number:

81798-1-RR

Concentration:

750 ug/ml

Source:

Rabbit

Isotype:

IgG

Immunogen Catalog Number:

AG1279

GenBank Accession Number:

BC022088

GeneID (NCBI):

468

UNIPROT ID:

P18848

Full Name:

activating transcription factor 4 (tax-responsive enhancer element B67)

Calculated MW:

39 kDa

Observed MW:

50 kDa

Purification Method:

Protein A purification

CloneNo.:

5N3

Recommended Dilutions:

WB: 1:5000-1:50000

IP: 0.5-4.0 ug for 1.0-3.0 mg of total protein lysate

IHC: 1:50-1:500

ChIP-qPCR: 1:10-1:100

Applications

Tested Applications:

WB, IHC, IP, ELISA, ChIP-qPCR

Species Specificity:

human, mouse

Note-IHC: suggested antigen retrieval with TE buffer pH 9.0; (*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0

Positive Controls:

WB: A431 cells, MG132 treated HEK-293 cells, MG132 treated HeLa cells

IP: HEK-293 cells,

IHC: human breast cancer tissue, human stomach cancer tissue, human colon cancer tissue

ChIP-qPCR: Tunicamycin (2ug/ml) overnight NIH/3T3 cells,

Background Information

ATF4 is a transcription factor, that accumulates predominantly in osteoblasts, where it regulates terminal osteoblast differentiation and bone formation [PMID: 19016586]. As a basic leucine-zipper (bZip) transcription factor, ATF4 can regulate amino acid metabolism, cellular redox state, and anti-stress responses. It also regulates age-related and diet-induced obesity and glucose homeostasis in mammals, and has conserved metabolic functions in flies [PMID: 19726872]. Due to its location at chromosome 22q13, a region linked to schizophrenia, ATF4 is considered as a positional candidate gene for schizophrenia [PMID: 18163433]. Otherwise, since ATF4 is induced by tumour microenvironmental factors, and regulates processes relevant to cancer progression, it might serve as a potential therapeutic target in cancer. Endogenous ATF4 protein has a molecular mass of 50kd. [PMID: 17726049]. ATF4 can bind DNA as a homodimer and as a heterodimer. ATF4 is ubiquitinated by SCF(BTRC) in response to mTORC1 signal, followed by proteasomal degradation and leading to down-regulate expression of SIRT4, so the molecular weight of ATF4 may be 70 kDa.

Storage

Storage:

Store at -20°C. Stable for one year after shipment.

Storage Buffer:

PBS with 0.02% sodium azide and 50% glycerol, pH7.3

Aliquoting is unnecessary for -20°C storage

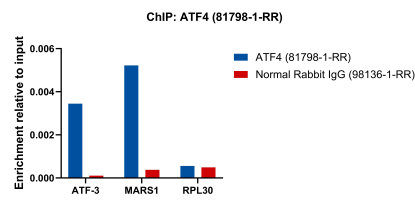
For technical support and original validation data for this product please contact:

T: 4006900926

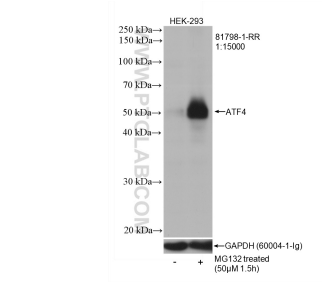
E: Proteintech-CN@ptglab.comW: ptgcn.com

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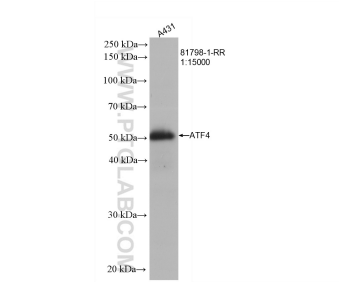
Selected Validation Data



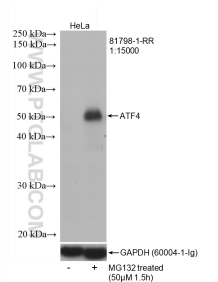
Chromatin was prepared from NIH/3T3 cells treated with Tunicamycin (2ug/ml) overnight. Cells were fixed with formaldehyde for 10 minutes. The ChIP was performed with 20 µg of cross-linked chromatin, 5 µg of ATF4 (81798-1-RR) or 5 ug of Normal Rabbit IgG (98136-1-RR), and 20 µl of Protein A Magarose Beads. The immunoprecipitated DNA was quantified by real-time PCR.



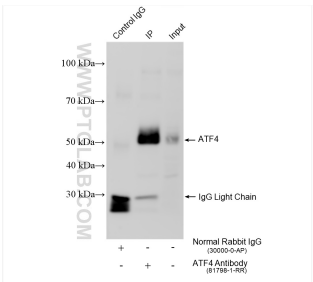
Non-treated HEK-293 and MG132 treated HEK-293 cells were subjected to SDS PAGE followed by western blot with 81798-1-RR (ATF4 antibody) at dilution of 1:15000 incubated at room temperature for 1.5 hours. The membrane was stripped and re-blotted with GAPDH antibody as loading control.



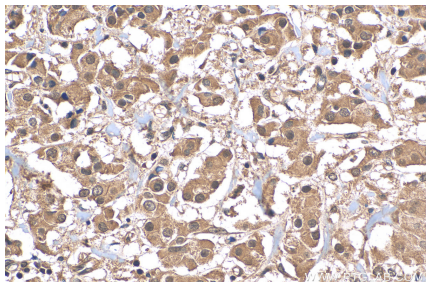
A431 cells were subjected to SDS PAGE followed by western blot with 81798-1-RR (ATF4 antibody) at dilution of 1:15000 incubated at room temperature for 1.5 hours.



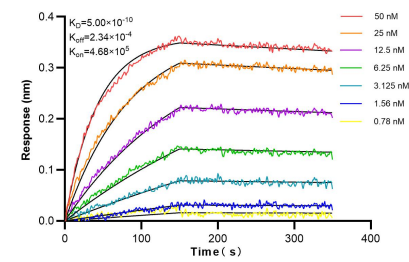
Non-treated HeLa and MG132 treated HeLa cells were subjected to SDS PAGE followed by western blot with 81798-1-RR (ATF4 antibody) at dilution of 1:15000 incubated at room temperature for 1.5 hours. The membrane was stripped and re-blotted with GAPDH antibody as loading control.



IP result of anti-ATF4 (IP:81798-1-RR, 4ug; Detection:81798-1-RR 1:4000) with HEK-293 cells lysate 1440 ug.



Immunohistochemical analysis of paraffin-embedded human breast cancer tissue slide using 81798-1-RR (ATF4 antibody) at dilution of 1:200 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Biolayer interferometry (BLI) kinetic assays of 81798-1-RR against Human ATF4 were performed. The affinity constant is 0.500 nM.