For Research Use Only

ATF4 Polyclonal antibody

Catalog Number:10835-1-AP Featured Product 639 Publications

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Basic Information

Catalog Number:
10835-1-AP

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:
45-50 kDa

Purification Method:
Antigen affinity purification

Recommended Dilutions:
WB: 1:1000-1:4000
IP: 0.5-4.0 ug for 1.0-3.0 mg of total protein lysate
IHC: 1:50-1:500
IF/ICC: 1:200-1:800
FC (Intra): 0.50 ug per 10^6 cells in a 100 ul suspension

Applications

Tested Applications:
WB, IHC, FC (Intra), IP, ELISA

Cited Applications:
WB, IHC, IF, IP, CoIP, ChIP

Species Specificity:
human, mouse, rat

Cited Species:
human, mouse, rat, pig, canine, chicken, zebrafish, hamster, c.elegans

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 : Tunicamycin treated HEK-293 cells, HEK-293 cells, A431 cells, rat brain tissue

IP : HEK-293 cells,

IHC : human breast cancer tissue, human placenta tissue, mouse colon tissue

IF/ICC : Tunicamycin treated HeLa cells, HeLa cells

FC (Intra) : HeLa 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]. This antibody is a rabbit polyclonal antibody raised against full length human ATF4 antigen. The antibody recognizes the 45-50 kDa ATF4 protein and its phosphorylated forms (50 kDa). 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.

Notable Publications

Author	Pubmed ID	Journal	Application
Theresia Sarabhai	36178534	Diabetologia	WB
Junxia Hu	31580970	Biomed Pharmacother	WB
Jing Sun	34650437	Front Pharmacol	WB

Storage

Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol, pH 7.3.
Aliquoting is unnecessary for -20°C storage

For technical support and original validation data for this product please contact:
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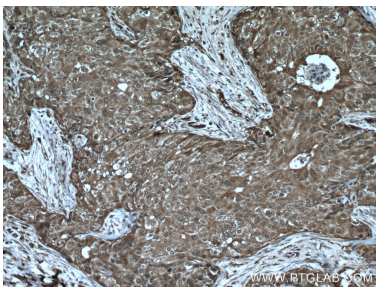
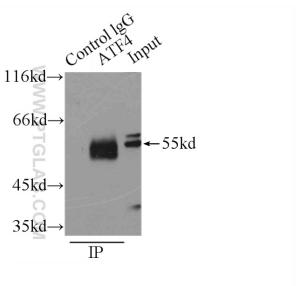
This product is exclusively available under Proteintech Group brand and is not available to purchase from any other manufacturer.

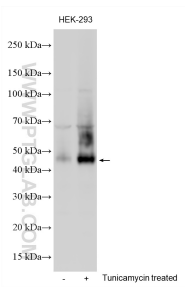
Selected Validation Data



Immunohistochemical analysis of paraffin-embedded human breast cancer tissue slide using 10835-1-AP (ATF4 antibody) at dilution of 1:200 (under 10x lens. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).

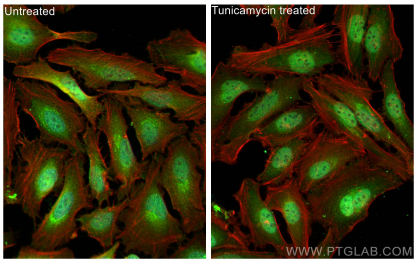


IP result of anti-ATF4 (IP:10835-1-AP, 3ug; Detection:10835-1-AP 1:400) with HEK-293 cells lysate 6000ug.

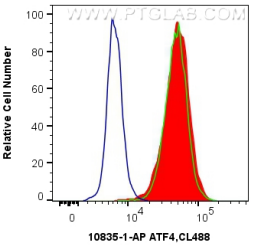


Non-treated HEK-293 cells and Tunicamycin treated HEK-293 cells were subjected to SDS PAGE followed by western blot with 10835-1-AP (ATF4 antibody) at dilution of 1:2000 incubated at room temperature for 1.5 hours.

Immunohistochemical analysis of paraffin-embedded mouse colon tissue slide using 10835-1-AP (ATF4 antibody) at dilution of 1:1000 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunofluorescent analysis of (4% PFA) fixed Tunicamycin treated HeLa cells using ATF4 antibody (10835-1-AP) at dilution of 1:400 and CoraLite®488-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L), CL594-phalloidin (red).



1X10^6 HeLa cells were intracellularly stained with 0.5 ug Anti-Human ATF4 (10835-1-AP) and CoraLite®488-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L) at dilution 1:1000 (red), or 0.5 ug Control Antibody. Cells were fixed with 4% PFA and permeabilized with Intracellular Staining Permeabilization Wash Buffer.