

For Research Use Only

# ATF4 Polyclonal antibody

Catalog Number: 10835-1-AP

Featured Product

427 Publications



## Basic Information

### Catalog Number:

10835-1-AP

### Size:

150ul, Concentration: 1000 ug/ml by Nanodrop;

### 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 1:500-1:1000

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

## Applications

### Tested Applications:

WB, IHC, IF/ICC, FC (Intra), IP, ELISA

### Cited Applications:

WB, IHC, IF, IP, CoIP, ChIP

### Species Specificity:

human, mouse, rat

### Cited Species:

human, mouse, rat, pig, chicken, zebrafish, hamster

**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, HEK-293 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

## 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, pH7.3

Aliquoting is unnecessary for -20°C storage

\*\*\* 20ul sizes contain 0.1% BSA

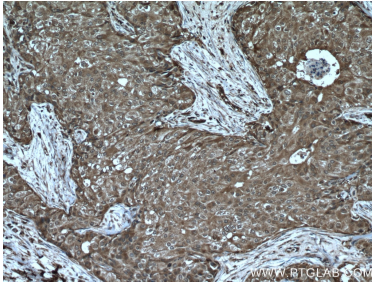
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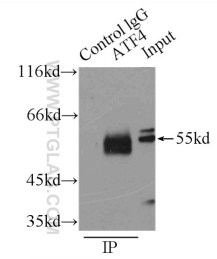
## Selected Validation Data



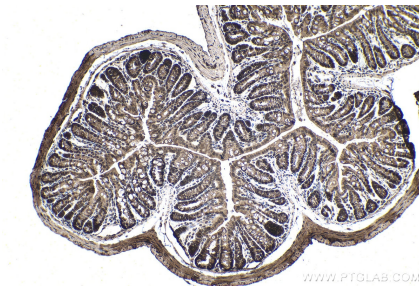
Immunohistochemical analysis of paraffin-embedded human breast cancer tissue slide using 10835-1-AP (ATF4 antibody) at dilution of 1:200 (under 10x lens. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



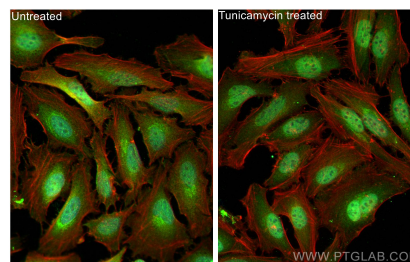
A431 cells were subjected to SDS PAGE followed by western blot with 10835-1-AP (ATF4 antibody) at dilution of 1:500 incubated at room temperature for 1.5 hours.



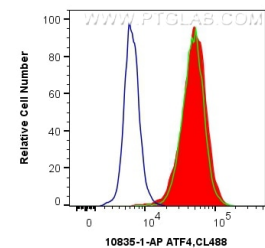
IP result of anti-ATF4 (IP:10835-1-AP, 3ug; Detection:10835-1-AP 1:400) with HEK-293 cells lysate 6000ug.



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<sup>6</sup> 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.