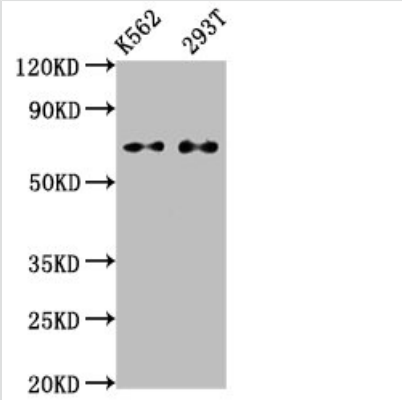
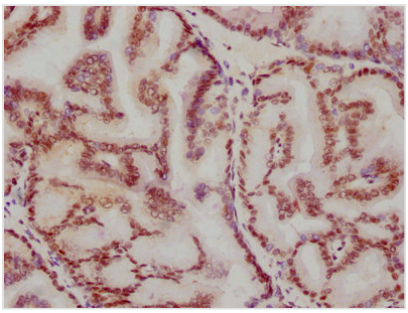
ATF2 Recombinant Monoclonal Antibody

Product Code	CSB-RA002270A0HU
Abbreviation	Cyclic AMP-dependent transcription factor ATF-2
Storage	Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.
Uniprot No.	P15336
Immunogen	A synthesized peptide derived from human ATF2
Species Reactivity	Human
Tested Applications	ELISA, WB, IHC; Recommended dilution: WB:1:500-1:5000, IHC:1:50-1:200
Relevance	Transcriptional activator which regulates the transcription of various genes, including those involved in anti-apoptosis, cell growth, and DNA damage response. Dependent on its binding partner, binds to CRE (cAMP response element) consensus sequences (5'-TGACGTCA-3') or to AP-1 (activator protein 1) consensus sequences (5'-TGACTCA-3'). In the nucleus, contributes to global transcription and the DNA damage response, in addition to specific transcriptional activities that are related to cell development, proliferation and death. In the cytoplasm, interacts with and perturbs HK1- and VDAC1-containing complexes at the mitochondrial outer membrane, thereby impairing mitochondrial membrane potential, inducing mitochondrial leakage and promoting cell death. The phosphorylated form (mediated by ATM) plays a role in the DNA damage response and is involved in the ionizing radiation (IR)-induced S phase checkpoint control and in the recruitment of the MRN complex into the IR-induced foci (IRIF). Exhibits histone acetyltransferase (HAT) activity which specifically acetylates histones H2B and H4 in vitro. In concert with CUL3 and RBX1, promotes the degradation of KAT5 thereby attenuating its ability to acetylate and activate ATM. Can elicit oncogenic or tumor suppressor activities depending on the tissue or cell type.
Form	Liquid
Conjugate	Non-conjugated
Storage Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Purification Method	Affinity-chromatography
Isotype	Rabbit IgG
Clonality	Monoclonal
Product Type	Recombinant Antibody
Immunogen Species	Homo sapiens (Human)
Research Area	Epigenetics and Nuclear Signaling
Gene Names	ATF2
Clone No.	3D12

Image



Western Blot
Positive WB detected in: K562 whole cell lysate, 293T whole cell lysate
All lanes: ATF2 antibody at 1.2µg/ml
Secondary
Goat polyclonal to rabbit IgG at 1/50000 dilution
Predicted band size: 55, 36, 24, 49, 53, 14, 25, 16 KDa
Observed band size: 70 KDa



IHC image of CSB-RA002270A0HU diluted at 1:115.5 and staining in paraffin-embedded human prostate tissue performed on a Leica BondTM system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4? overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.

Description

The production of the ATF2 recombinant monoclonal antibody involves the utilization of DNA recombinant technology and in vitro genetic manipulation. Initially, an animal is immunized with a synthesized peptide derived from human ATF2, and B cells are isolated for further screening. Positive B cells are selected, and individual clones are identified. The light and heavy chains of the ATF2 antibody are then amplified using PCR and inserted into a plasmid vector to create a recombinant vector. This vector is transfected into a host cell line to enable the expression of the antibody. The ATF2 recombinant monoclonal antibody is subsequently purified from the cell culture supernatant using affinity chromatography. This antibody specifically recognizes human ATF2 protein and is recommended for use in ELISA, WB, and IHC applications.

ATF2 is a transcription factor that regulates the expression of many genes in response to various cellular stress stimuli, including UV irradiation, osmotic shock, and inflammatory cytokines. In cells, ATF2 protein can bind to DNA and activate the transcription of genes involved in cell growth, differentiation, and apoptosis. ATF2 also plays a critical role in the cellular response to stress by activating the MAP kinase signaling pathway and promoting the expression of stress-responsive genes. It is involved in regulating cell proliferation, survival, and differentiation, and has been implicated in various diseases, including cancer and neurodegeneration.