abcam

ab256820

Anti-ATF2 antibody [EPR22938-114] - BSA and Azide free

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Carrier free	Yes
Clone number	EPR22938-114
Purification technique	Affinity purification Protein A
Concentration	1.023 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Mouse, Rat, Human
Dilution info	-

Notes	-

IP

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

Species	Rat, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

ChIP

Not recommended

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

WB

Tested

Species	Mouse, Rat, Human
Dilution info	-
Notes	-

ICC/IF

Not recommended

Species	Mouse, Rat, Human
Dilution info	-

Notes	-

Flow Cyt (Intra)

Tested

Species	Mouse
Dilution info	-
Notes	-

Expected

Species	Rat, Human
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information ATF2

Function

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 (PubMed:10821277). 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.

Storage

Shipped at conditions	Blue Ice

Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	+4°C
Storage information	Do Not Freeze

Notes

ab256820 is the carrier-free version of ab239361.

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Conjugation ready
Our carrier-free antibodies are typically supplied in a PBS-only formulation, purified and free of BSA, sodium azide and glycerol. This conjugation-ready format is designed for use with fluorochromes, metal isotopes, oligonucleotides, and enzymes, which makes them ideal for antibody labelling, functional and cell-based assays, flow-based assays (e.g. mass cytometry) and Multiplex Imaging applications.

Use our conjugation kits for antibody conjugates that are ready-to-use in as little as 20 minutes with 1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

Compatibility
This product is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm, without the need for antibody preparation. Maxpar® is a trademark of Fluidigm Canada Inc.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The ATF2 protein also referred to as ATF-2 or activating transcription factor 2 plays a significant role as a transcription factor in cellular processes. It weighs approximately 75 kDa and is expressed in many tissues with higher levels in the brain heart and skeletal muscle. Functionally ATF2 belongs to the leucine zipper family of proteins facilitating its ability to bind DNA and regulate the expression of genes involved in stress responses development and growth.

Biological function summary	ATF2 takes part in the regulation of gene expression in response to various stimuli. It often forms a complex with other proteins such as c-Jun when binding to the DNA. This complex then influences the transcription of genes that respond to cellular stress and DNA damage. By phosphorylating specific serine residues cellular kinases activate ATF2 which then translocates to the nucleus where it exerts its function.
Pathways	ATF2 integrates into the MAPK and JNK signaling cascades which are important for transmitting stress signals from the cell surface to the nucleus. Through these pathways ATF2 interacts with proteins such as JNK and p38 MAPK modulating the transcription of downstream genes that control cell proliferation apoptosis and differentiation. Its role in these pathways positions ATF2 as a critical node where various signaling inputs merge to influence cellular outcomes.
Associated diseases and disorders	ATF2 has associations with conditions such as cancer and neurological disorders. Aberrant regulation of ATF2 can contribute to oncogenesis by affecting cell cycle control and apoptosis. For example in melanoma altered ATF2 activity is linked to tumor progression and resistance to apoptosis. Additionally in neurological disorders its interaction with proteins like phospho-c-Jun influences neuronal survival and plasticity implicating ATF2 in pathologies related to neurodegeneration and cognitive dysfunction.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

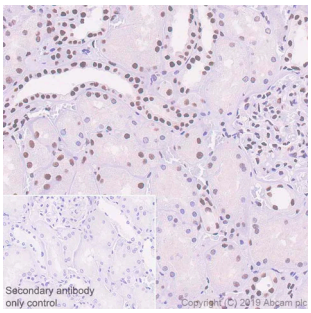
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

7 product images

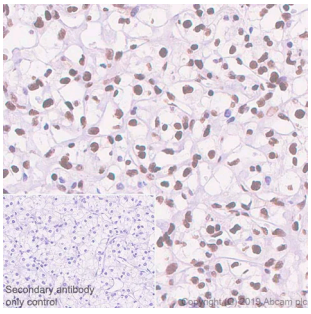


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATF2 antibody [EPR22938-114] - BSA and Azide free (ab256820)

ATF2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ATF2 antibody

Immunohistochemical analysis of paraffin-embedded human kidney tissue labeling ATF2 with ab239361 at 1/250 dilution (1.76 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining on human kidney (PMID: 27377902) is observed. The section was incubated with ab239361 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20mins.
Secondary antibody only control/ Used PBS instead of primary antibody, secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab239361).

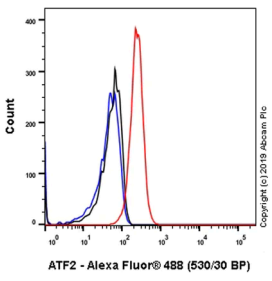


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATF2 antibody [EPR22938-114] - BSA and Azide free (ab256820)

ATF2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ATF2 antibody

Immunohistochemical analysis of paraffin-embedded Human kidney carcinoma tissue labeling ATF2 with ab239361 at 1/250 dilution (1.76 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining on human kidney carcinoma (PMID: 27377902) is observed. The section was incubated with ab239361 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20mins.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab239361).

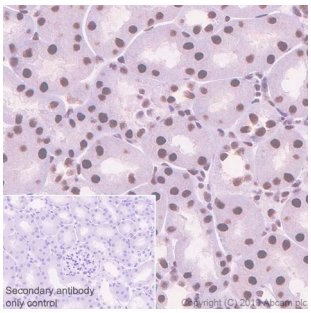


Flow Cytometry (Intracellular) - Anti-ATF2 antibody [EPR22938-114] - BSA and Azide free (ab256820)

ATF2 Flow Cytometry (Intracellular) staining using rabbit Anti-ATF2 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized NIH/3T3 (Mouse embryonic fibroblast) cells labeling ATF2 with ab239361 at 1/40 (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabeled control (cells

without incubation with primary antibody and secondary antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab239361).

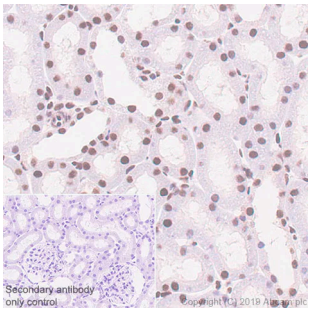


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATF2 antibody [EPR22938-114] - BSA and Azide free (ab256820)

ATF2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ATF2 antibody

Immunohistochemical analysis of paraffin-embedded mouse kidney tissue labeling ATF2 with ab239361 at 1/250 dilution (1.76 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining on mouse kidney is observed. The section was incubated with ab239361 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20mins. Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab239361).

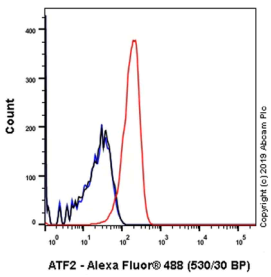


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATF2 antibody [EPR22938-114] - BSA and Azide free (ab256820)

ATF2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-ATF2 antibody

Immunohistochemical analysis of paraffin-embedded rat kidney tissue labeling ATF2 with ab239361 at 1/250 dilution (1.76 ug/ml) followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Nuclear staining on rat kidney is observed. The section was incubated with ab239361 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin. Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20mins. Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab239361).

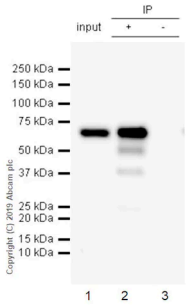


Flow Cytometry (Intracellular) - Anti-ATF2 antibody [EPR22938-114] - BSA and Azide free (ab256820)

ATF2 Flow Cytometry (Intracellular) staining using rabbit Anti-ATF2 antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized RAW 264.7 (Mouse Abelson murine leukemia virus-induced tumor macrophage) cells labeling ATF2 with ab239361 at 1/40 (Red) compared with a Rabbit monoclonal IgG (ab172730) (Black) isotype control and an unlabeled control (cells without incubation with primary antibody and secondary

antibody) (Blue). A Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/2000 dilution was used as the secondary antibody.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab239361).



Immunoprecipitation - Anti-ATF2 antibody [EPR22938-114] - BSA and Azide free (ab256820)

ATF2 was immunoprecipitated from 0.35 mg NIH/3T3 (Mouse embryonic fibroblast) whole cell lysate with ab239361 at 1/30 dilution (2µg in 0.35mg lysates). Western blot was performed on the immunoprecipitate using ab239361. VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1/1000 dilution.
Lane 1: NIH/3T3 (Mouse embryonic fibroblast) whole cell lysate 10µg.

Lane 2: ab239361 IP in NIH/3T3 whole cell lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab239361 in NIH/3T3 whole cell lysate.

Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 8 seconds.

Lysate were made freshly and used in IP test immediately to minimize protein degradation. Incubation time was 2h.

The molecular weight and degraded fragments observed are consistent with what has been described in the literature (PMID: 9488727, PMID: 10207054, PMID:26901653).

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab239361).

All lanes:
Immunoprecipitation - Anti-ATF2 antibody [EPR22938-114] (ab239361)

Predicted band size: 55 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.