abcam

ab247240

Anti-ATF2 antibody [E243] - BSA and Azide free

Recombinant | RabMAb | Advanced Validation

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	E243
Purification technique	Affinity purification Protein A
Specificity	This antibody recognises ATF2, but does not cross react with other ATF family members.
Concentration	0.997 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

ICC/IF

Tested

Species	Human

Dilution info	-
Notes	-

IP

Tested

Species	Human
Dilution info	-
Notes	-

ChIP

Tested

Species	Human
Dilution info	-
Notes	-

WB

Tested

Species	Human
Dilution info	-
Notes	-

IHC-P

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

ChIC/CUT&RUN-seq

Tested

Species	Human
Dilution info	-
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

ab247240 is the carrier-free version of ab32160.

Species reactivity

Mouse, Rat: We have preliminary internal testing data to indicate this antibody may not react with these species. Please contact us for more information.

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

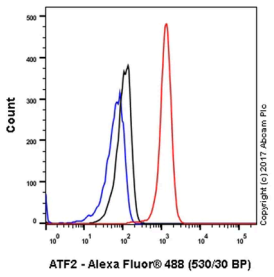
We do not recommend this combination. It is not covered by our product promise.

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.

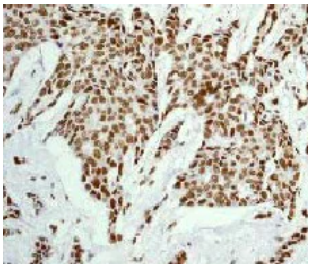
9 product images



Flow Cytometry (Intracellular) - Anti-ATF2 antibody [E243] - BSA and Azide free (ab247240)

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

This data was developed using ab32160, the same antibody clone in a different buffer formulation. Intracellular Flow Cytometry analysis of HeLa (human cervix adenocarcinoma) cells labeling ATF2 (red) with ab32160 at a 1/2000 dilution. Cells were fixed with 4% paraformaldehyde and permeabilized with 90% methanol. A goat anti-rabbit IgG (Alexa Fluor® 488) (ab150077) was used as the secondary antibody at a 1/2000 dilution. Black - Rabbit monoclonal IgG (ab172730). Blue (unlabeled control) - Cells without incubation with the primary and secondary antibodies.

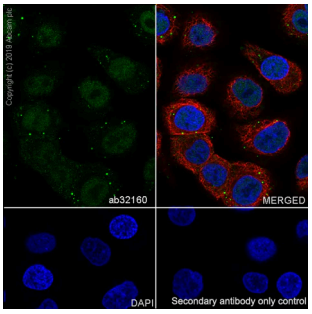


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-ATF2 antibody [E243] - BSA and Azide free (ab247240)

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

This data was developed using ab32160, the same antibody clone in a different buffer formulation. ab32160, at a dilution of 1/250, staining ATF2 in paraffin embedded breast carcinoma tissue by Immunohistochemistry.

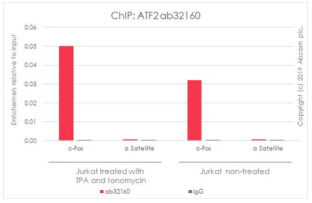
Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.



Immunocytochemistry/ Immunofluorescence - Anti-ATF2 antibody [E243] - BSA and Azide free (ab247240)

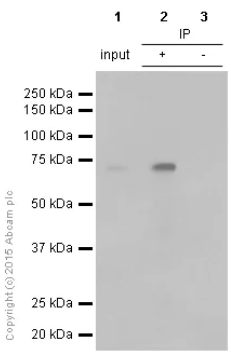
ATF2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-ATF2 antibody

This data was developed using the same antibody clone in a different buffer formulation (ab32160).
Immunocytochemistry analysis of A549 (human lung carcinoma epithelial cell) labeling ATF2 with purified ab32160 at 1/100 dilution (10 µg/ml). Cells were fixed with 4% Paraformaldehyde and permeabilised with 0.1% tritonX-100. Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) at 1/1000 (2 µg/ml) was used as the secondary antibody. ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1/200 (2.10 µg/ml) was used as counterstain. Nuclei were stained blue with DAPI.
Negative control: PBS instead of the primary antibody.



ChIP - Anti-ATF2 antibody [E243] - BSA and Azide free (ab247240)

This data was developed using ab32160, the same antibody clone in a different buffer formulation. Chromatin was prepared from Jurkat (TPA and Ionomycin treated or not) cells according to the Abcam X-ChIP protocol. Cells were fixed with 1% formaldehyde for 10 minutes. The ChIP was performed with 25µg of chromatin, 5µg of ab32160 (red), and 20µl of protein A/G sepharose beads slurry (10µl of sepharose A beads + 10µl of sepharose G beads). 5µg of rabbit normal IgG was added to the beads control (grey). The immunoprecipitated DNA was quantified by real time PCR (Sybr green approach).

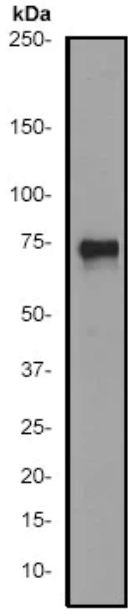


Immunoprecipitation - Anti-ATF2 antibody [E243] - BSA and Azide free (ab247240)

This data was developed using ab32160, the same antibody clone in a different buffer formulation. ab32160 (purified) at 1/60 dilution (20 µg/mL) immunoprecipitating ATF2 in HeLa whole cell lysate.
Lane 3 (-): HeLa(Human cervix adenocarcinoma epithelial cell) whole cell lysate 10µgab32160 & HeLa whole cell lysateRabbit monoclonal IgG (ab172730) instead of ab32160 in HeLa whole cell lysate
For western blotting, ab32160 at 1/1000 dilution (2.284 µg/mL) and
bbit TureBlot: Anti-Rabbit IgG HRP was used as the secondary antibody at 1/1500 dilution.
Blocking and diluting buffer: 5% NFDM /TBST .

All lanes:
Immunoprecipitation - Anti-ATF2 antibody [E243] - ChIP Grade (ab32160)

Predicted band size: 55 kDa



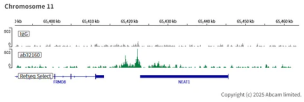
Western blot - Anti-ATF2 antibody [E243] - BSA and Azide free (ab247240)

This data was developed using ab32160, the same antibody clone in a different buffer formulation.
All lanes:
Western blot - Anti-ATF2 antibody [E243] - ChIP Grade (ab32160) at 1/10000 dilution

All lanes:
HeLa cell lysate

Predicted band size: 55 kDa

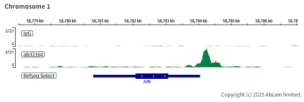
Observed band size: 70 kDa



ChIC/CUT&RUN sequencing - Anti-ATF2 antibody [E243] - BSA and Azide free (ab247240)

This data was developed using the same antibody clone in a different buffer formulation (ab32160).
ChIC/CUT&RUN was performed using a pAG-MNase at a final concentration of 700 ng/mL, 2.5 x 10^5 K-562 (human chronic myelogenous leukemia lymphoblast) cells and 5 µg of ab ab32160[E243].
The resulting DNA was sequenced on the Illumina NovaSeq 6000 to a depth of 10 million reads.
The negative IgG control ab172730 is also shown.

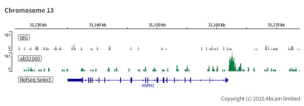
The University of Geneva owns patents relevant to ChIC (Chromatin Immuno-Cleavage) methods.



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