abcam

ab238992

Anti-CREB3 antibody [EPR14215(B)] - 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	EPR14215(B)
Purification technique	Affinity purification Protein A

Reactivity data

WB

Tested

Species	Human
Dilution info	-
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	-
Notes	-

Target data

See full target information CREB3

Function

Endoplasmic reticulum (ER)-bound sequence-specific transcription factor that directly binds DNA and activates transcription (PubMed:10984507, PubMed:15845366, PubMed:16940180, PubMed:19779205, PubMed:9271389). Plays a role in the unfolded protein response (UPR), promoting cell survival versus ER stress-induced apoptotic cell death (PubMed:15845366, PubMed:16940180). Also involved in cell proliferation, migration and differentiation, tumor suppression and inflammatory gene expression. Acts as a positive regulator of LKN-1/CCL15-induced chemotaxis signaling of leukocyte cell migration (PubMed:15001559, PubMed:17296613, PubMed:19779205). Associates with chromatin to the HERPUD1 promoter (PubMed:16940180). Also induces transcriptional activation of chemokine receptors (PubMed:17296613, PubMed:18587271). (Microbial infection) Plays a role in human immunodeficiency virus type 1 (HIV-1) virus protein expression. Isoform 1. (Microbial infection) May play a role as a cellular tumor suppressor that is targeted by the hepatitis C virus (HCV) core protein. Isoform 1. (Microbial infection) Plays a role in herpes simplex virus-1 (HSV-1) latent infection and reactivation from latency. Represses the VP16-mediated transactivation of immediate early genes of the HSV-1 virus by sequestering host cell factor-1 HCFC1 in the ER membrane of sensory neurons, thereby preventing the initiation of the replicative cascade leading to latent infection. Isoform 2. Functions as a negative transcriptional regulator in ligand-induced transcriptional activation of the glucocorticoid receptor NR3C1 by recruiting and activating histone deacetylases (HDAC1, HDAC2 and HDAC6). Also decreases the acetylation level of histone H4. Does not promote the chemotactic activity of leukocyte cells. Processed cyclic AMP-responsive element-binding protein 3. This is the transcriptionally active form that translocates to the nucleus and activates unfolded protein response (UPR) target genes during endoplasmic reticulum (ER) stress response. Binds the cAMP response element (CRE) (consensus: 5'-GTGACGT[AG][AG]-3') and C/EBP sequences

present in many promoters to activate transcription of the genes. Binds to the unfolded protein response element (UPRE) consensus sequences sites. Binds DNA to the 5'-CCAC[GA]-3'half of ERSE II (5'-ATTGG-N-CCACG-3'). Processed cyclic AMP-responsive element-binding protein 3. (Microbial infection) Activates transcription of genes required for reactivation of the latent HSV-1 virus. Its transcriptional activity is inhibited by CREBZF in a HCFC1-dependent manner, by the viral transactivator protein VP16. Binds DNA to the cAMP response element (CRE) (consensus: 5'-GTGACGT[AG][AG]-3') and C/EBP sequences present in many viral promoters. Processed cyclic AMP-responsive element-binding protein 3. (Microbial infection) Its transcriptional activity is inhibited by CREBZF in a HCFC1-dependent manner, by the viral transactivator HCV core protein.

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

ab238992 is the carrier-free version of ab180119.

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	CREB3 also known as Cyclic AMP-responsive element-binding protein 3 is a transcription factor. It belongs to the bZIP family and features a basic-leucine zipper domain that facilitates DNA binding. This protein weighs approximately 55 kDa. CREB3 is primarily expressed in the liver and the secretory tissues where it helps in regulating various genes.
Biological function summary	CREB3 activates transcription by binding to cyclic AMP-responsive elements (CRE) in the promoters of target genes. It forms part of a wider regulatory network and can interact with other transcription factors to modulate gene expression. This protein is involved in the unfolded protein response which is essential for maintaining cellular homeostasis particularly under stress conditions.
Pathways	CREB3 plays an important role in the endoplasmic reticulum stress response pathway. It helps in the regulation of genes involved in protein folding and secretion. CREB3 also interacts with other proteins such as ATF6 which operates in similar pathways to coordinate cell survival and adaptation mechanisms under stress.
Associated diseases and disorders	Altered CREB3 function has been linked to metabolic disorders including liver diseases such as non-alcoholic fatty liver disease. Additionally its dysregulation may be implicated in neurodegenerative disorders potentially through interaction with proteins like GRP78 which is also involved in the unfolded protein response. These associations highlight CREB3's importance in managing stress responses and maintaining proper cellular function.

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

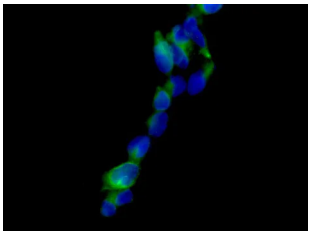
We do not recommend this combination. It is not covered by our product promise.

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.

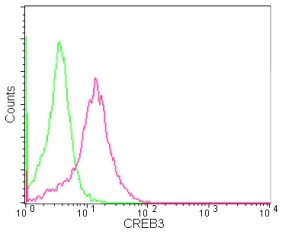
3 product images



Immunocytochemistry/ Immunofluorescence - Anti-CREB3 antibody [EPR14215(B)] - BSA and Azide free (ab238992)

CREB3 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-CREB3 antibody

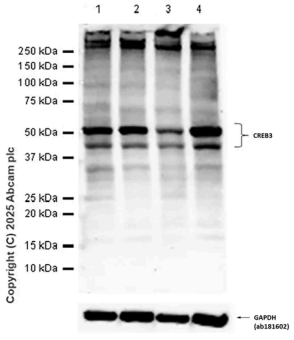
Immunofluorescent analysis of 4% paraformaldehyde-fixed 293 cells labeling CREB3 with ab180119 at 1/100 dilution. Counterstained with DAPI (blue).
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol and sodium azide (ab180119).



Flow Cytometry (Intracellular) - Anti-CREB3 antibody [EPR14215(B)] - BSA and Azide free (ab238992)

CREB3 Flow Cytometry (Intracellular) staining using rabbit Anti-CREB3 antibody

Intracellular flow cytometric analysis of 2% paraformaldehyde-fixed HeLa cells labeling CREB3 with ab180119 at 1/100 dilution (red) compared to a rabbit IgG control (green), followed by secondary Goat anti rabbit IgG (FITC) at 1/75 dilution.
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide (ab180119).



Western blot - Anti-CREB3 antibody [EPR14215(B)] - BSA and Azide free (ab238992)

CREB3 Western blot staining using rabbit Anti-CREB3 antibody

This data was developed using ab180119, the same antibody clone in a different buffer formulation.
Blocking and diluting buffer and concentration: 5% NFDM/TBST.

In Western blot, Anti-GAPDH antibody [EPR16891] - Loading Control (ab181602) staining at 1/1000000 dilution.

The Western blot result was developed using a high- sensitivity ECL substrate (femtogram-level).

The observed band size is consistent with previous reports (PMID: 40674075, PMID: 38480902).

CREB3 contains multiple ubiquitination sites, which may account for the elevated background signal.
All lanes:
Western blot - Anti-CREB3 antibody [EPR14215(B)] (ab180119) at 1/1000 dilution

Lane 1:
SK-OV-3 (human ovarian cancer epithelial cell) whole cell lysate at 20 µg

Lane 2:
HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate at 20 µg

Lane 3:
HepG2 (human hepatocellular carcinoma epithelial cell) whole cell lysate at 20 µg

Lane 4:
Jurkat (human T cell leukemia T lymphocyte) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Observed band size: 42 kDa, 55 kDa

Exposure time: 160s

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