abcam

ab252237

Anti-Fos B antibody [EPR23489-90]

Recombinant | RabMAb

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR23489-90
Purification technique	Affinity purification Protein A
Concentration	0.577 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human
Dilution info	1/30
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/500
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/500
Notes	-

Target data

See full target information FOSB

Function Heterodimerizes with proteins of the JUN family to form an AP-1 transcription factor complex, thereby enhancing their DNA binding activity to gene promoters containing an AP-1 consensus sequence 5'-TGA[GC]TCA-3' and enhancing their transcriptional activity (PubMed:12618758, PubMed:28981703). As part of the AP-1

complex, facilitates enhancer selection together with cell-type-specific transcription factors by collaboratively binding to nucleosomal enhancers and recruiting the SWI/SNF (BAF) chromatin remodeling complex to establish accessible chromatin (By similarity). Together with JUN, plays a role in activation-induced cell death of T cells by binding to the AP-1 promoter site of FASLG/CD95L, and inducing its transcription in response to activation of the TCR/CD3 signaling pathway (PubMed:12618758). Exhibits transactivation activity in vitro (By similarity). Involved in the display of nurturing behavior towards newborns (By similarity). May play a role in neurogenesis in the hippocampus and in learning and memory-related tasks by regulating the expression of various genes involved in neurogenesis, depression and epilepsy (By similarity). Implicated in behavioral responses related to morphine reward and spatial memory (By similarity). Isoform 11. Exhibits lower transactivation activity than isoform 1 in vitro (By similarity). The heterodimer with JUN does not display any transcriptional activity, and may thereby act as an transcriptional inhibitor (By similarity). May be involved in the regulation of neurogenesis in the hippocampus (By similarity). May play a role in synaptic modifications in nucleus accumbens medium spiny neurons and thereby play a role in adaptive and pathological reward-dependent learning, including maladaptive responses involved in drug addiction (By similarity). Seems to be more stably expressed with a half-life of ~9.5 hours in cell culture as compared to 1.5 hours half-life of isoform 1 (By similarity).

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

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.

Supplementary info

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

Activity summary	Fos B also known as FosB is a protein encoded by the FOSB gene and belongs to the Fos family of transcription factors. Weighing approximately 46 kDa this protein acts within the cell nucleus and is expressed in several tissues particularly in brain regions. Delta Fos B an isoform of Fos B has gained attention for its stable accumulation in certain neuronal populations. Researchers often study Fos B using techniques like ELISA and immunohistochemistry to investigate its presence and distribution.
Biological function summary	Functions of Fos B include regulation of gene expression through forming AP-1 transcription factor complexes with Jun family proteins. These complexes bind to DNA influencing the expression of genes involved in processes such as cell proliferation differentiation and survival. Fos B is structurally similar to other Fos family proteins such as c-Fos which emphasises its role in response to extracellular signals and stress stimuli. Both Fos B and its isoform Delta Fos B have distinct expression patterns suggesting unique functions.
Pathways	Fos B plays a role in the MAPK/ERK signaling pathway which is essential for transmitting extracellular signals to promote diverse cellular responses. Within this pathway interactions with proteins like Jun lead to modulation of gene expression critical for cellular responses to growth factors. Additionally connections to the CREB signaling pathway link Fos B to processes concerning neuronal plasticity and memory further highlighting its participation in important biological functions.
Associated diseases and disorders	Involvement of Fos B has been noted in neurological conditions such as addiction and depression. Delta Fos B in particular accumulates in response to chronic drug exposure and serves as a molecular switch in addiction-related neuroadaptations. Connections with proteins such as CREB and other transcriptional regulators have broadened the understanding of how Fos B and its isoforms impact neural circuits and contribute to the pathology of mood disorders.

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.

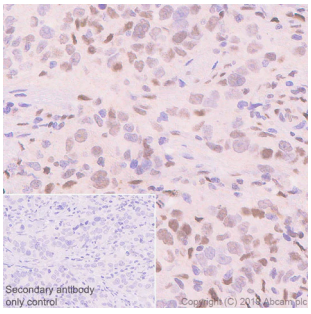
We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

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.

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6 product images

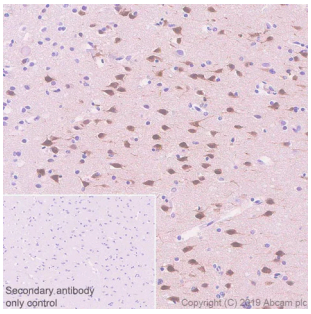


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Fos B antibody [EPR23489-90] (ab252237)

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

Immunohistochemical analysis of paraffin-embedded human breast cancer tissue labeling Fos B with ab252237 at 1/500 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive nuclear staining in cancer cells of human breast cancer is observed (PMID: 12602926). The section was incubated with ab252237 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

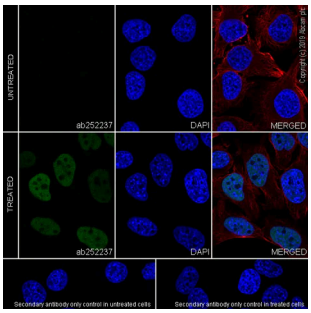


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Fos B antibody [EPR23489-90] (ab252237)

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

Immunohistochemical analysis of paraffin-embedded human hippocampus tissue labeling Fos B with ab252237 at 1/500 dilution followed by a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive nuclear staining in neurons of human hippocampus is observed (PMID: 29805976). The section was incubated with ab252237 for 30 mins at room temperature. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Secondary antibody is a ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

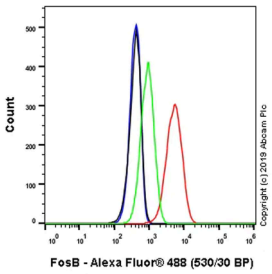
Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.



Immunocytochemistry/ Immunofluorescence - Anti-Fos B antibody [EPR23489-90] (ab252237)

Fos B Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Fos B antibody

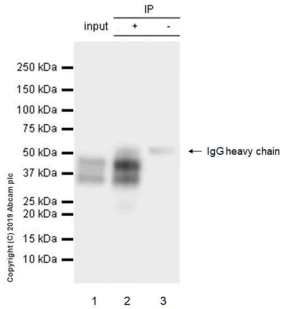
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (human cervix adenocarcinoma epithelial cell) cells labeling Fos B with ab252237 at 1/500 dilution, followed by ab150077 AlexaFluor®488 Goat anti-Rabbit secondary antibody at 1/1000 dilution (Green). Confocal image showing nuclear staining in HeLa cells treated with starvation 16 hours, then 12-O-Tetradecanoylphorbol-13-acetate (200nM) for 4 hours. ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) was used to counterstain tubulin at 1/200 dilution (Red). The nuclear counterstain was DAPI (Blue).
Secondary antibody only control: ab150077 AlexaFluor®488 Goat anti-Rabbit secondary at 1/1000 dilution.



Flow Cytometry (Intracellular) - Anti-Fos B antibody [EPR23489-90] (ab252237)

Fos B Flow Cytometry (Intracellular) staining using rabbit Anti-Fos B antibody

Intracellular flow cytometric analysis of 4% paraformaldehyde fixed 90% methanol permeabilized HeLa (human cervix adenocarcinoma epithelial cell) was serum starved for 16 hours, then treated with 200nM 12-O-Tetradecanoylphorbol-13-acetate (TPA) for 4 h (Red) / Untreated control (Green) cells labeling Fos B with ab252237 at 1/500 (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 was used as the secondary antibody.



Immunoprecipitation - Anti-Fos B antibody [EPR23489-90] (ab252237)

Fos B was immunoprecipitated from 0.35 mg HeLa (human cervix adenocarcinoma epithelial cell) serum starved overnight, then treated with 200 nM TPA for 4 hours, whole cell lysate 10 µg with ab252237 at 1/30 dilution (2µg in 0.35 mg lysates). Western blot was performed on the immunoprecipitate using ab252237 at 1/1000 dilution. VeriBlot for IP Detection Reagent (HRP) (ab131366) was used at 1/5000 dilution.
Lane 1: HeLa serum starved overnight, then treated with 200 nM TPA for 4 hours, whole cell lysate 10 µg.

Lane 2: ab252237 IP in HeLa serum starved overnight, then treated with 200 nM TPA for 4 hours, whole cell lysate.

Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab252237 in HeLa serum starved overnight, then treated with 200 nM TPA for 4 hours, whole cell lysate.

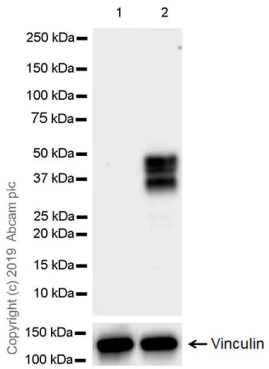
Blocking and dilution buffer and concentration: 5% NFDM/TBST.

Exposure time: 5 seconds.

The band around 37kDa is caused by splicing isoform.

All lanes:
Immunoprecipitation - Anti-Fos B antibody [EPR23489-90] (ab252237)

Predicted band size: 36 kDa, 87 kDa



Western blot - Anti-Fos B antibody [EPR23489-90] (ab252237)

Blocking and diluting buffer and concentration: 5% NFDM/TBST.
The band around 37kDa is caused by splicing isoform.

The expression profile observed is consistent with what has been described in the literature (PMID: 9204924).

Exposure time: 37 seconds.

All lanes:
Western blot - Anti-Fos B antibody [EPR23489-90] (ab252237) at 1/1000 dilution

Lane 1:
HeLa (human cervix adenocarcinoma epithelial cell) serum starved overnight, whole cell lysate at 20 µg

Lane 2:
HeLa serum starved overnight, then treated with 200 nM 12-o-tetradecanoyl phorbol 13-acetate (TPA, ab120297) for 4 hours, whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 36 kDa

Observed band size: 37 kDa, 48 kDa

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