abcam

ab108319

Anti-BDNF antibody [EPR1292]

Anti-BDNF antibody [EPR1292] (ab108319) is a rabbit monoclonal antibody detecting BDNF in **Western Blot, Flow Cytometry (Intra), IHC-P, IHC-Fr, ICC/IF**. Suitable for **Human, Mouse, Rat**.

- Clone EPR1292 is the most cited clone to BDNF
- Biophysical QC for unrivalled batch-batch consistency
- Over 480 publications

Recombinant | RabMAb | 20ul selling size

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	EPR1292
Purification technique	Affinity purification Protein A
Specificity	This product may cross react with the following family members: NGF beta, neurotrophin 3, neurotrophin 4. It was discovered that this antibody exhibited weak cross - reactivity with the NTF3 protein.
Concentration	0.255 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IHC-P

Tested

Species	Human
Dilution info	1/500
Notes	Heat up to 98 degrees C, below boiling, and then let cool for 10-20 min. Perform heat-mediated antigen retrieval before commencing with IHC staining protocol.

Not recommended

Species	Mouse, Rat, Transfected cell line - Human
Dilution info	-
Notes	-

WB

Tested

Species	Mouse
Dilution info	1/1000
Notes	-

Species	Rat
Dilution info	1/1000
Notes	-

Species	Human
Dilution info	1/1000
Notes	-

Species	Transfected cell line - Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/500
Notes	-

Expected

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

Not recommended

Species	Transfected cell line - Human
Dilution info	-
Notes	-

IHC-Fr

Tested

Species	Mouse
Dilution info	1/100
Notes	Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20)

Species	Rat
Dilution info	1/100
Notes	Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20)

Species	Human
Dilution info	1/100
Notes	Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20)

Not recommended

Species	Transfected cell line - Human
Dilution info	-
Notes	-

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/30
Notes	-

Expected

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

Not recommended

Species	Transfected cell line - Human
Dilution info	-
Notes	-

Target data

See full target information BDNF

Function

Important signaling molecule that activates signaling cascades downstream of NTRK2 (PubMed:11152678). During development, promotes the survival and differentiation of selected neuronal populations of the peripheral and central nervous systems. Participates in axonal growth, pathfinding and in the modulation of dendritic growth and morphology. Major regulator of synaptic transmission and plasticity at adult synapses in many regions of the CNS. The versatility of BDNF is emphasized by its contribution to a range of adaptive neuronal responses including long-term potentiation (LTP), long-term depression (LTD), certain forms of short-term synaptic plasticity, as well as homeostatic regulation of intrinsic neuronal excitability. Neurotrophic factor BDNF precursor form. Important

signaling molecule that activates signaling cascades downstream of NTRK2. Activates signaling cascades via the heterodimeric receptor formed by NGFR and SORCS2 (PubMed:24908487, PubMed:29909994). Signaling via NGFR and SORCS2 plays a role in synaptic plasticity and long-term depression (LTD). Binding to NGFR and SORCS2 promotes neuronal apoptosis. Promotes neuronal growth cone collapse (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

Anti-BDNF antibody [EPR1292] (ab108319) was developed by Abcam using patented rabbit monoclonal antibody technology and is validated for use in Flow Cyt (Intra), ICC/IF, IHC-Fr, IHC-P and WB.

Anti-BDNF antibody [EPR1292] (ab108319) was first used in a scientific publication in 2012 and has been cited over 481 times in peer reviewed journals. It's performance in Western Blot in human, mouse and rat samples is trusted by the scientific community.

Abcam's high quality manufacturing and validation processes ensure Anti-BDNF antibody [EPR1292] (ab108319) has high sensitivity and specificity alongside high lot-to-lot consistency and reproducibility.

Anti-BDNF antibody [EPR1292] (ab108319) has 8 independent reviews from customers.

Anti-BDNF antibody [EPR1292] (ab108319) specifically detects BDNF (UniProt ID: P23560; Molecular weight: 26kDa) and is sold in 100 µL and 1 mL selling sizes.

Conjugation-ready, carrier free format available for antibody clone EPR1292 - ab216443.

Antibody clone EPR1292 is also available pre-conjugated to a variety of labels for your convenience - Alexa Fluor® 488, Alexa Fluor® 647, Alexa Fluor® 555 (ab222113, ab222321, ab305366).

BDNF (Brain-Derived Neurotrophic Factor) is a key protein in neuro research, particularly for its role in supporting neuronal survival, growth and differentiation. It is crucial for synaptic plasticity, which underlies learning and memory. Researchers use BDNF to study neurodevelopment, neuroprotection and the effects of various

interventions on brain health, making it essential for understanding both normal brain function and the pathology of neurodegenerative diseases. Its expression is highly regulated and can be influenced by factors such as exercise and stress.

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.

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

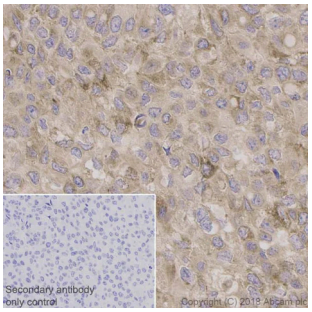
We do not recommend this combination. It is not covered by our product promise.

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.

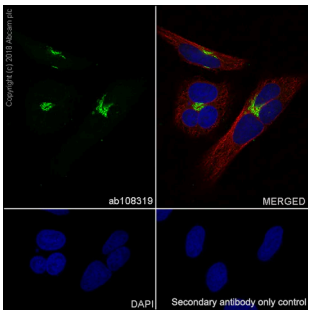
11 product images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-BDNF antibody [EPR1292] (ab108319)

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

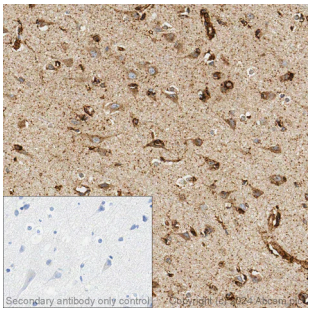
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of Human bladder cancer tissue sections labeling BDNF with purified ab108319 at 1:500 dilution (0.56 µg/ml). Heat mediated antigen retrieval was performed using ab93684 (Tris/EDTA buffer pH 9.0). The secondary antibody used was Goat Anti-Rabbit IgG H&L (HRP polymer) ab214880.



Immunocytochemistry/ Immunofluorescence - Anti-BDNF antibody [EPR1292] (ab108319)

BDNF Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-BDNF antibody

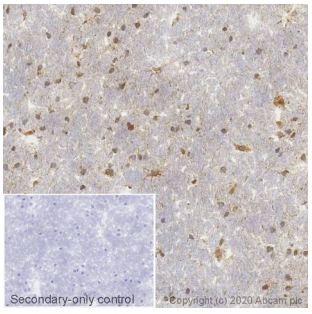
Immunocytochemistry/ Immunofluorescence analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling BDNF with Purified ab108319 at 1:500 (0.6 µg/ml). Cells were fixed in 100% Methanol and permeabilized with None. Cells were counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) 1:200 (2.5 µg/ml). Goat anti rabbit IgG (Alexa Fluor® 488 ab150077) was used as the secondary antibody at 1:1000 (2 µg/ml) dilution. DAPI nuclear counterstain. PBS instead of the primary antibody was used as the secondary antibody only control.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-BDNF antibody [EPR1292] (ab108319)

BDNF Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining of human brain (cerebrum) using rabbit Anti-BDNF antibody

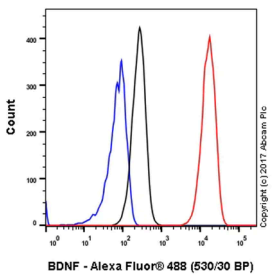
Immunohistochemical analysis of formalin fixed paraffin embedded human brain (cerebrum) labelling BDNF with ab108319 at a concentration of 0.56 µg/ml. The immunostaining was performed on a Ventana DISCOVERY ULTRA (Roche Tissue Diagnostics) instrument with an OptiView DAB IHC Detection Kit. Heat mediated antigen retrieval was conducted for 32 mins at 100°C with ULTRA cell conditioning solution (CC1, pH 8.5). ab108319 Anti-BDNF antibody [EPR1292] was incubated at 37°C for 16 mins. Sections were counterstained with Hematoxylin II. Image inset shows absence of staining in secondary antibody only control.



Immunohistochemistry (Frozen sections) - Anti-BDNF antibody [EPR1292] (ab108319)

BDNF Immunohistochemistry (Frozen sections) staining using rabbit Anti-BDNF antibody

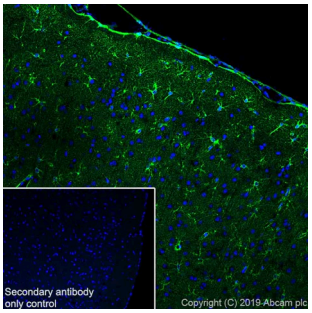
IHC image of BDNF staining in a section of frozen normal human cerebral cortex performed on a Leica BOND™ system using the standard protocol. The section was fixed in 10% paraformaldehyde (10 min) prior to staining. The section was incubated with ab108319, 1/200 dilution, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody.
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.



Flow Cytometry (Intracellular) - Anti-BDNF antibody [EPR1292] (ab108319)

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

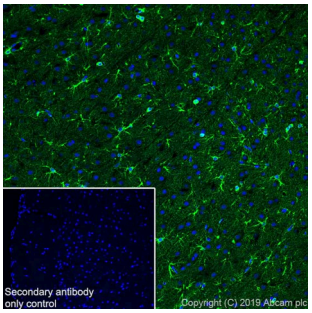
Intracellular Flow Cytometry analysis of HeLa (Human cervix adenocarcinoma epithelial cell) cells labeling BDNF with purified ab108319 at 1/30 dilution (10µg/ml) (red). Cells were fixed with 80% methanol. A Goat anti rabbit IgG (Alexa Fluorr® 488) secondary antibody was used at 1/2000 dilution. Isotype control - Rabbit monoclonal IgG (Black). Unlabeled control - Cell without incubation with primary antibody and secondary antibody (Blue).



Immunohistochemistry (Frozen sections) - Anti-BDNF antibody [EPR1292] (ab108319)

BDNF Immunohistochemistry (Frozen sections) staining using rabbit Anti-BDNF antibody

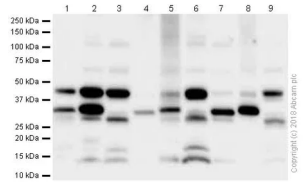
Immunohistochemistry (Frozen sections) analysis of mouse cerebrum tissue sections labeling BDNF with Purified ab108319 at 1/100 (2.8 µg/ml).Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. DAPI was used as a counterstain.



Immunohistochemistry (Frozen sections) - Anti-BDNF antibody [EPR1292] (ab108319)

BDNF Immunohistochemistry (Frozen sections) staining using rabbit Anti-BDNF antibody

Immunohistochemistry (Frozen sections) analysis of rat cerebral cortex tissue sections labeling BDNF with Purified ab108319 at 1/100 (2.8 µg/ml).Heat mediated antigen retrieval using sodium citrate buffer (10mM citrate pH 6.0 + 0.05% Tween-20). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077) was used as the secondary antibody. Negative control: PBS instead of the primary antibody. DAPI was used as a counterstain.



Western blot - Anti-BDNF antibody [EPR1292] (ab108319)

BDNF Western blot staining using rabbit Anti-BDNF antibody

All lanes:
Western blot - Anti-BDNF antibody [EPR1292] (ab108319) at 1/1000 dilution

Lane 1:
Human brain lysates at 20 µg

Lane 2:
Mouse brain lysates at 20 µg

Lane 3:
Rat brain lysates at 20 µg

Lane 4:
Human hippocampus lysates at 20 µg

Lane 5:
Mouse hippocampus lysates at 20 µg

Lane 6:
Rat hippocampus lysates at 20 µg

Lane 7:
Human cerebellum lysates at 20 µg

Lane 8:
Mouse cerebellum lysates at 20 µg

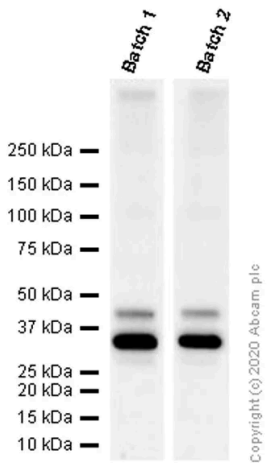
Lane 9:
Rat cerebellum lysates at 20 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG (HRP) with minimal cross-reactivity with human IgG at 1/2000 dilution

Predicted band size: 27 kDa

Observed band size: 15-45 kDa

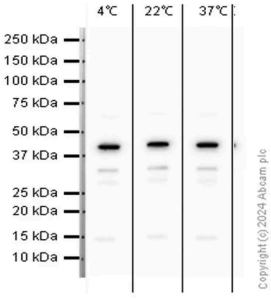


Western blot - Anti-BDNF antibody [EPR1292] (ab108319)

BDNF Western blot staining using rabbit Anti-BDNF antibody

Different batches of ab108319 were tested on Mouse brain lysate at 0.3 µg/ml. 15 µg of lysate was loaded in each lane. Bands observed at 14-45 kDa.
All lanes:
Western blot - Anti-BDNF antibody [EPR1292] (ab108319)

Predicted band size: 27 kDa



Western blot - Anti-BDNF antibody [EPR1292] (ab108319)

BDNF Western blot staining of Mouse brain lysate using rabbit Anti-BDNF antibody

This blot was produced using 4-20% SDS-PAGE containing 15 µg of mouse brain lysate per lane at 150V for 1hr before being transferred onto a 0.45 µm PVDF membrane at 75V for 1hr. The membrane was then blocked for 1hr using 5% NFDM/TBST, then incubated with ab108319 (1/1000) at room temperature for 1hr. After being washed three times in TBST, the membrane was incubated with Peroxidase conjugated goat anti-rabbit IgG (H+L) (ab97051) at 1/20,000 dilution for 1hr at room temperature. The membrane was washed three times again. Then the signal was developed using the ECL technique.

ab108319 was stored at a range of temperatures (+4°C, +22°C, +37°C) for 1 week before being tested in WB. The image shows the band intensity remains relatively constant across all storage temperatures, demonstrating that antibody activity is not affected under these conditions. This data was generated as part of a structured antibody stability study supporting Abcam’ s transition from cold⊠chain to ambient shipping.

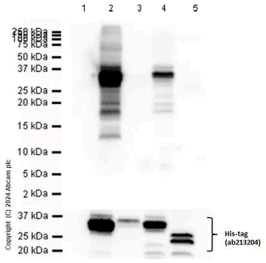
All lanes:
Western blot - Anti-BDNF antibody [EPR1292] (ab108319) at 1/1000 dilution

All lanes:
Mouse brain lysate at 15 µg with NDFM/TBST

Secondary

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

Exposure time: 5s



Western blot - Anti-BDNF antibody [EPR1292] (ab108319)

Blocking and diluting buffer and concentration: 5% NFDM/TBST

ab213204 was used as a His tag loading control.

All lanes:
Western blot - Anti-BDNF antibody [EPR1292] (ab108319) at 1/1000 dilution

Lane 1:
293T cells transfected with an empty vector containing a His tag whole cell lysate at 20 µg

Lane 2:
293T cells transfected with a Human BDNF expression vector containing a His-tag whole cell lysate at 20 µg

Lane 3:
293T cells transfected with a Human NGF expression vector containing a His-tag whole cell lysate at 20 µg

Lane 4:
293T cells transfected with a Human NTF3 expression vector containing a His-tag whole cell lysate at 20 µg

Lane 5:
293T cells transfected with a Human NTF4 expression vector containing a His-tag 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: 35 kDa

Exposure time: 1s

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