abcam

Product datasheet

Anti-TrkB antibody [EPR17805-146] ab187041

Recombinant RabMAb

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Overview

Product name	Anti-TrkB antibody [EPR17805-146]
Description	Rabbit monoclonal [EPR17805-146] to TrkB
Host species	Rabbit
Tested applications	**Suitable for:** Indirect ELISA, ICC/IF, WB, IHC-P, IP **Unsuitable for:** Flow Cyt
Species reactivity	**Reacts with:** Mouse, Rat
Immunogen	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
Positive control	WB: Mouse TrkB active protein; mouse and rat brain lysates. IHC-P: Mouse and rat cerebral cortex tissues and mouse primary neuron cell. IP: Mouse brain lysate. Indirect ELISA: Mouse TrkB antigen. ICC/IF: mouse primary neuron cells
General notes	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 production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: 59% PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Purity	Protein A purified
Clonality	Monoclonal
Clone number	EPR17805-146

Isotype IgG

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab187041 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Indirect ELISA		Use at an assay dependent concentration.
ICC/IF		1/50.
WB		1/5000. Detects a band of approximately 140, 90 kDa (predicted molecular weight: 92 kDa).
IHC-P		1/1000. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
IP		1/50.

Application notes Is unsuitable for Flow Cyt.

Target

Function Receptor for brain-derived neurotrophic factor (BDNF), neurotrophin-3 and neurotrophin-4/5 but not nerve growth factor (NGF). Involved in the development and/or maintenance of the nervous system. This is a tyrosine-protein kinase receptor. Known substrates for the TRK receptors are SHC1, PI-3 kinase, and PLC-gamma-1.

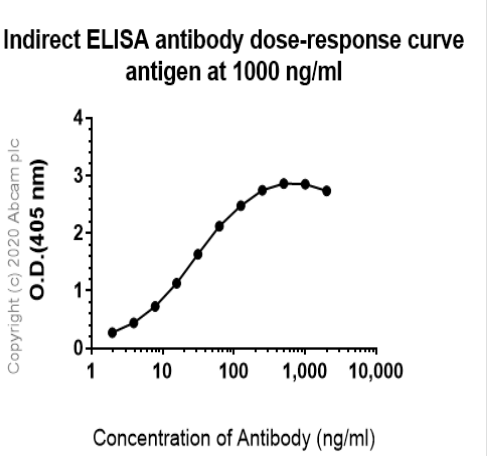
Tissue specificity Isoform TrkB is widely expressed, mainly in the nervous tissue. In the CNS, expression is observed in the cerebral cortex, hippocampus, thalamus, choroid plexus, granular layer of the cerebellum, brain stem, and spinal cord. In the peripheral nervous system, it is expressed in many cranial ganglia, the ophtalmic nerve, the vestibular system, multiple facial structures, the submaxillary glands, and dorsal root ganglia. Isoform TrkB-T1 is expressed in multiple tissues, mainly in brain, pancreas, kidney and heart. Isoform TrkB-T-Shc is predominantly expressed in brain.

Sequence similarities Belongs to the protein kinase superfamily. Tyr protein kinase family. Insulin receptor subfamily.
Contains 2 Ig-like C2-type (immunoglobulin-like) domains.
Contains 2 LRR (leucine-rich) repeats.
Contains 1 LRRCT domain.
Contains 1 LRRNT domain.
Contains 1 protein kinase domain.

Post-translational modifications Ligand-mediated auto-phosphorylation.

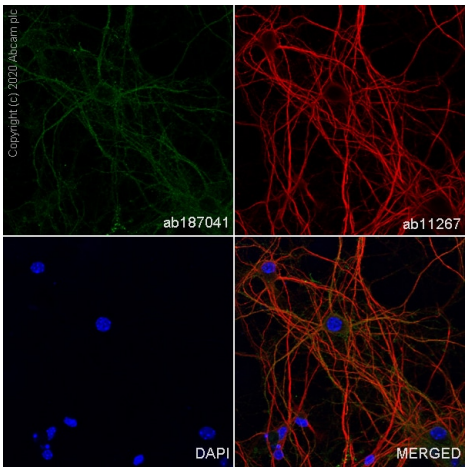
Cellular localization Membrane.

Images



Indirect ELISA - Anti-TrkB antibody [EPR17805-146] (ab187041)

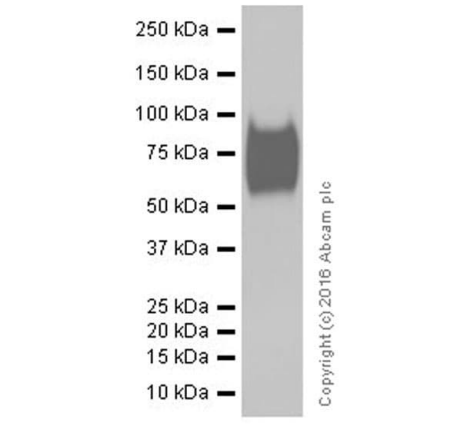
ELISA analysis of Mouse TrkB (Ntrk2) recombinant protein at 1000 ng/ml with ab187041. An Alkaline Phosphatase-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L) at 1/2500 dilution was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-TrkB antibody [EPR17805-146] (ab187041)

Immunofluorescent analysis of 4% Paraformaldehyde-fixed, 0.1% TritonX-100 permeabilized mouse primary neuron cells labelling TrkB with ab187041 at 1/50 dilution, followed by **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) antibody at 1/1000 2 ug/ml dilution (Green). Confocal image showing positive staining in mouse primary neuron.Confocal scanning Z step was set as 0.3 µm followed by image processing with maximum Z projection. **ab11267** Anti-MAP2 mouse monoclonal antibody was used to counterstain tubulin at 1/500 4 dilution (Red). The Nuclear counterstain was DAPI (Blue).

Secondary antibody only control: Secondary antibody is **ab150077** Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) at 1/1000 2 ug/ml dilution.



Western blot - Anti-TrkB antibody [EPR17805-146] (ab187041)

Anti-TrkB antibody [EPR17805-146] (ab187041) at 1/5000 dilution + Mouse TrkB active protein at 0.01 µg

Secondary

Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/100000 dilution

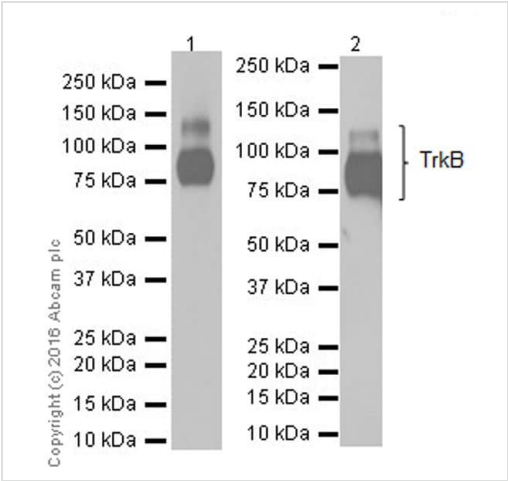
Predicted band size: 92 kDa

Observed band size: 75-85 kDa

Exposure time: 3 seconds

Blocking/Dilution buffer: 5% NFDM/TBST.

Mouse TrkB active protein contains aa1-429 with a C-terminal poly histidine-tag.



Western blot - Anti-TrkB antibody [EPR17805-146] (ab187041)

All lanes : Anti-TrkB antibody [EPR17805-146] (ab187041) at 1/5000 dilution

Lane 1 : Mouse brain lysate
Lane 2 : Rat brain lysate

Lysates/proteins at 10 µg per lane.

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

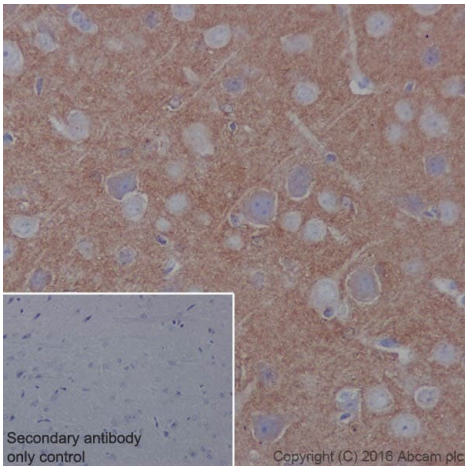
Predicted band size: 92 kDa
Observed band size: 140,90 kDa

Exposure time: 3 minutes

Blocking/Dilution buffer: 5% NFDM/TBST.

TrkB is abundantly expressed in the central and peripheral nervous system. The 140 kDa observed MW which is higher than the predicted one is due to the glycosylation modification.

90 kDa corresponds to the truncated form, as observed in the literature (PMID:24860020).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TrkB antibody [EPR17805-146] (ab187041)

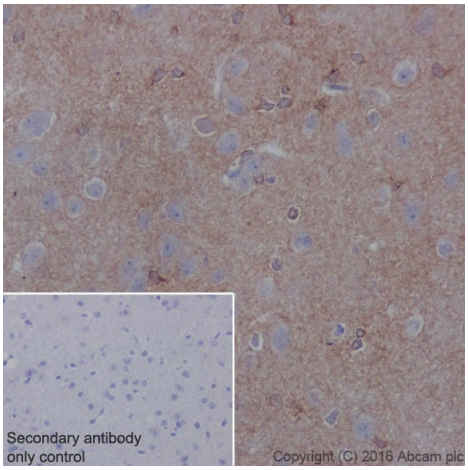
Immunohistochemical analysis of paraffin-embedded mouse cerebral cortex tissue labeling TrkB with ab187041 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/500 dilution.

Cytoplasmic and membrane staining on mouse cerebral cortex is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TrkB antibody [EPR17805-146] (ab187041)

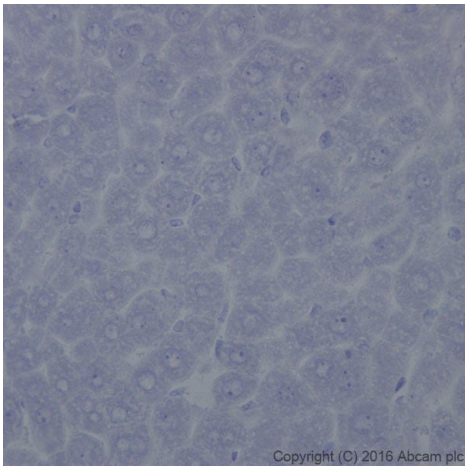
Immunohistochemical analysis of paraffin-embedded rat cerebral cortex tissue labeling TrkB with ab187041 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/500 dilution.

Cytoplasmic and membrane staining on rat cerebral cortex is observed.

Counter stained with Hematoxylin.

Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/500 dilution.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



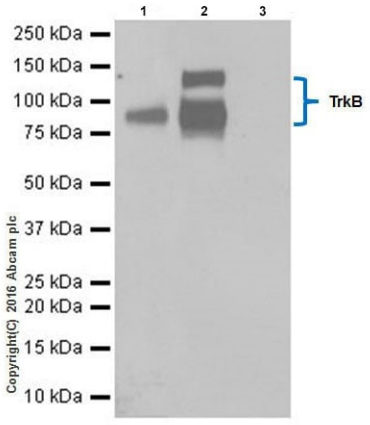
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TrkB antibody [EPR17805-146] (ab187041)

Immunohistochemical analysis of paraffin-embedded mouse liver tissue labeling TrkB with ab187041 at 1/1000 dilution, followed by Goat Anti-Rabbit IgG H&L (HRP) (**ab97051**) at 1/500 dilution.

Negative control: no staining on mouse liver [PMID: 2555172].

Counter stained with Hematoxylin.

Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.



Immunoprecipitation - Anti-TrkB antibody [EPR17805-146] (ab187041)

TrkB was immunoprecipitated from 1 mg of mouse brain lysate with ab187041 at 1/50 dilution.

Western blot was performed from the immunoprecipitate using ab187041 at 1/1000 dilution.

VeriBlot for IP Detection Reagent (HRP) (**ab131366**), was used for detection at 1/10000 dilution.

Lane 1: Mouse brain lysate 10µg (Input).

Lane 2: ab187041 IP in mouse brain lysate.

Lane 3: Rabbit IgG, monoclonal [EPR25A] - Isotype Control (**ab172730**) instead of ab187041 in mouse brain lysate.

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

Exposure time: 1 second.

Anti-TrkB antibody [EPR17805-146] (ab187041)

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