abcam

Product datasheet

Anti-BDNF antibody ab6201

★★★★★ 1 Abreviews 44 References 5 Images

Overview

Product name	Anti-BDNF antibody
Description	Rabbit polyclonal to BDNF
Host species	Rabbit
Specificity	By dot blots, less than 0.1% cross-reactivity against mouse NGF, recombinant human NT3 or NT4. Regarding use with brain lysates in WB: BDNF is very weakly expressed in whole brain (orders of magnitude lower), and extremely difficult to detect in BRAIN lysates. Thus, it cannot be compared to structural proteins or more common targets. It is recommended to use a positive control or spiked lysate control to optimize WB conditions.
Tested applications	**Suitable for:** Dot blot, ICC/IF, ELISA, Neutralising, WB, IHC-FoFr
Species reactivity	**Reacts with:** Mouse, Rat, Horse, Human, Pig
Immunogen	Recombinant full length protein (Human).
Positive control	Purchase matching WB positive control: **Recombinant Human/Murine/Rat BDNF protein (Active)** IHC-Fr: rat dorsal root ganglion (using a ganglion from an animal perfused with 2% (2% not the usual 4%) formaldehyde, with the addition of 15% picric acid, will reveal BDNF in many small diameter neurons. WB: dorsal root ganglia is recommended as the best positive control, but if not available, then both brain or spinal cord extracts can be used.
General notes	This antibody has proven particularly useful for western blot, immunohistochemistry and biological inhibition. For immunohistochemistry, cell bodies are clearly stained as well as some nerve terminals in the dorsal horn of the rat spinal cord. The antiserum does not stain the finest nerve terminals. For BDNF, multiple WB bands are possible and expected. The human protein has 5 isoforms (precursors: 28 – 37 kDa) and can be glycosylated (Uniprot: http://www.uniprot.org/uniprot/P23560). The mature form is expected at ~14 kDa (monomer) and the dimer at ~28 kDa.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Add glycerol to a final volume of 50% for extra stability and aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.

Storage buffer	Constituent: 0.0268% PBS
Purity	Protein G purified
Clonality	Polyclonal
Isotype	IgG
Light chain type	unknown

Applications

The Abpromise guarantee Our Abpromise guarantee covers the use of ab6201 in the following tested applications.

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

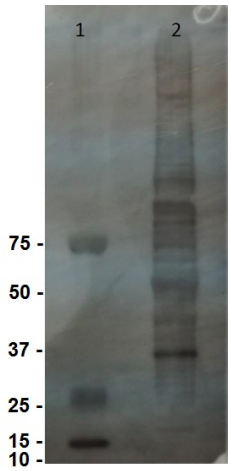
Application	Abreviews	Notes
Dot blot		Use a concentration of 1 - 10 µg/ml.
ICC/IF		Use a concentration of 5 µg/ml.
ELISA		Use a concentration of 0.1 µg/ml.
Neutralising		Use a concentration of 2 - 10 µg/ml.
WB	★★★★★ (1)	Use a concentration of 1 - 10 µg/ml. WB analysis of BDNF can give multiple bands, especially when using tissue lysates, because of many BDNF binding proteins that can form SDS-stable complexes even after boiling. Even in reduced samples, BDNF forms easily dimers and multimers, thus six or more bands can be present (most prominent: 28kDa dimer, monomer: ~14kDa). ab6201 will react also with BDNF-proforms
IHC-FoFr		Use a concentration of 1 - 5 µg/ml. PubMed: 18971468Using ABC or tyramide amplification may be required to enhance the signal.

Target

Function	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.
Tissue specificity	Brain. Highly expressed in hippocampus, amygdala, cerebral cortex and cerebellum. Also expressed in heart, lung, skeletal muscle, testis, prostate and placenta.
Involvement in disease	Bulimia nervosa 2 Congenital central hypoventilation syndrome
Sequence similarities	Belongs to the NGF-beta family.
Post-translational	The propeptide is N-glycosylated and glycosulfated.

modifications	Converted into mature BDNF by plasmin (PLG).
Cellular localization	Secreted.

Images

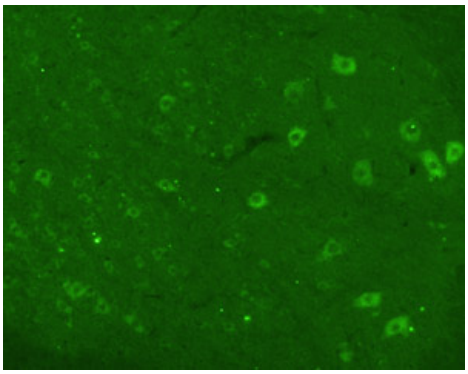


Western blot - Anti-BDNF antibody (ab6201)

All lanes : Anti-BDNF antibody (ab6201)

Lane 1 : Purified rHBNDF at 0.05 µg
Lane 2 : Mouse brian lysate at 15 µg

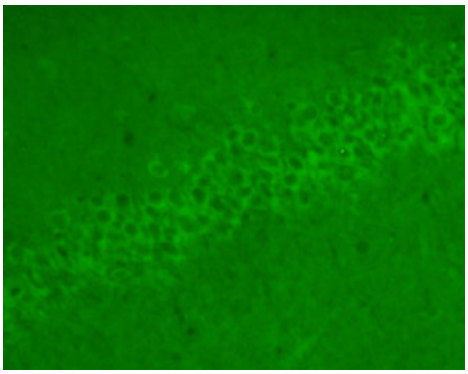
Observed band size: 14,28 kDa



Immunohistochemistry - Free Floating - Anti-BDNF antibody (ab6201)

Sophie Pezet, King`s college London, United Kingdom

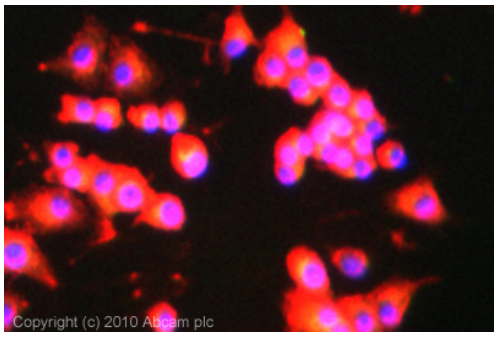
ab6201 BDNF antibody immunostaining in the ventral horn of the spinal cord. Protocol: free floating, PFA/picric acid perfusion fixed rat coronal sections (30 microns) were incubated overnight in ab6201 (1/500) followed by 1 night of postfixation). Immunofluorescence was visualised with TSA amplification.



Immunohistochemistry - Free Floating - Anti-BDNF antibody (ab6201)

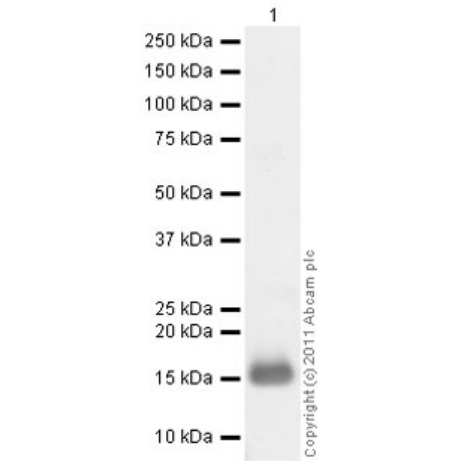
Sophie Pezet, King`s college London, United Kingdom

ab6201 BDNF antibody immunostaining BDNF-containing hippocampal neurons. Protocol: PFA(only)-fixed free floating coronal rat brain sections (30 microns) were incubated for 3 days with ab6201 at 1/100 followed by direct immunofluorescence detection (alexa488; 1/1000). We recommend using an amplification IHC protocol following PFA/picric acid fixation of brain tissue for optimising BDNF detection using ab6201



Immunocytochemistry/ Immunofluorescence - Anti-BDNF antibody (ab6201)

ICC/IF image of ab6201 stained PC12 cells. The cells were 4% formaldehyde fixed (10 min) and then incubated in 1%BSA / 10% normal goat serum / 0.3M glycine in 0.1% PBS-Tween for 1h to permeabilise the cells and block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab6201, 5µg/ml) overnight at +4°C. The secondary antibody (green) was Alexa Fluor® 488 goat anti-rabbit IgG (H+L) used at a 1/1000 dilution for 1h. Alexa Fluor® 594 WGA was used to label plasma membranes (red) at a 1/200 dilution for 1h. DAPI was used to stain the cell nuclei (blue) at a concentration of 1.43µM.



Western blot - Anti-BDNF antibody (ab6201)

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