

Rabbit antibody to BDNF (129-138): whole serum

Catalogue No.:	R-083-100
Description:	BDNF belongs to the neurotrophin family and regulates the survival and differentiation of neurons during development. The alterations in BDNF expression induced by various kinds of brain insult including stress, ischemia, seizure activity and hypoglycemia, may contribute to some pathologies such as depression, epilepsy, Alzheimer's, and Parkinson's disease. Microglia release BDNF that may contribute to neuroinflammation and neuropathic pain. FUNCTION: Promotes the survival of neuronal populations that are all located either in the central nervous system or directly connected to it. 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. SUBUNIT: Monomers and homodimers. Binds to NTRK2/TRKB. SUBCELLULAR LOCATION: Secreted protein. POst translation modification: Converted into mature BDNF by plasmin (PLG). SIMILARITY: Belongs to the NGF-beta family.
Batch No.:	See product label
Unit size:	100 uL
Antigen:	A synthetic peptide (HSDPARRGEL) as a part of human BDNF protein (aa: 129-138) conjugated to KLH has been used as the immunogen. The BDNF protein sequence is highly conserved amongst primates.
Other Names:	Brain-derived neurotrophic factor; Abrineurin; proBDNF;
Accession:	BDNF_HUMAN
Produced in:	Rabbit
Purity:	Whole serum
Applications:	Western Blotting: This antibody detects multiple BDNF isoforms (14 kDa mature BDNF, 18 kDa isoform, 28 kDa BDNF dimer/truncated BDNF, 32 kDa proBDNF monomer) depending on sample application (human serum, cell lysate, tissue homogenate). Antibody also detects BDNF under non-reducing conditions (McLean NA, 2014). ELISA: Detection only, 1:1000-1:5000 recommended. Biosensis recommends optimal dilutions/concentrations should be determined by the end user.
Specificity:	Less than 0.1% cross reactivity with mouse NGF, recombinant human NT3 and NT4/5 has been recorded by dot blot analysis.
Cross-reactivity:	This antiserum is known to recognise rat, mouse and human BDNF, and is expected to react with BDNF from other species due to amino acid sequence homology.
Form:	Lyophilised
Reconstitution:	Reconstitute in 100 uL of sterile water. Centrifuge to remove any insoluble material.
Storage:	After reconstitution keep aliquots at -20C for a higher stability, and at 2-8C with an appropriate antibacterial agent. Glycerol (1:1) may be added for an additional stability. Avoid repetitive freeze/thaw cycles.

FOR RESEARCH USE ONLY

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Expiry Date: 12 months after purchase

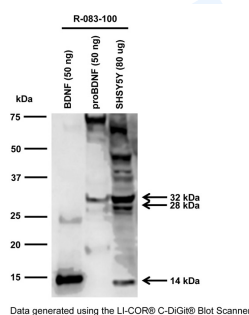
Specific References: McLean NA, Popescu BF, Gordon T, Zochodne DW, Verge VM. (2014) "Delayed nerve stimulation promotes axon-protective neurofilament phosphorylation, accelerates immune cell clearance and enhances remyelination in vivo in focally demyelinated nerves." *PLoS One*. 2014 Oct 13;9(10):e110174 Application: WB, non-reducing, Species: Rat
Cysneiros R.M. et al (2010) Qualitative analysis of hippocampal plastic changes in rats with epilepsy supplemented with oral omega-3 fatty acids *Epilepsy Behav*. 2010 Jan;17(1):33-8.

Ooe N. et al (2009) Dynamic regulation of bHLH-PAS-type transcription factor NXF gene expression and neurotrophin dependent induction of the transcriptional control activity *Biochem Biophys Res Commun*. 2009 Jan 23;378(4):761-5.

General References:

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2. Q Yan et al (1994) *J. Neurosci*. 14(9): 5281-91
3. XF Zhou et al (1996) *Neurosci*. 74: 945-53
4. XF Zhou, et al (1998) *Exp. Neurol*. 149: 237-42
5. B Mellstrom et al (2004) *Crit Rev Neurobiol* 16, 43-9
6. I Tapia-Arancibia et al (2004) *Front Neuroendocrinol* 25, 77-107
7. S Pezet, et al (2002) *Brain Res Brain Res Rev* 40, 240-9
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9. Conner J et al. (1997) *J. Neurosci*. 17: 2295
10. JA Coull et al (2005) *Nature*. Dec 15;438(7070):1017-21.
11. C Gomes et al (2013) *J Neuroinflammation*. Jan 30;10:16.

References: BDNF Antibodies for Western Blotting



Western blot analysis of BDNF expression in SH-SY5Y cell lysate. Polyclonal rabbit BDNF antibody to BDNF (129-138; here whole serum antibody R-083-100 at 1:1000 dilution is shown) detects monomeric BDNF at 14 kDa and monomeric proBDNF at 32 kDa. An additional 28 kDa band is prominent which might relate to BDNF dimer or truncated BDNF isoform (Tongiorgi et al., 2012). Western Blotting Method: SDS-PAGE: denaturing and reducing, 12% Bis-Tris gel; Transfer: Tris-Glycine buffer, semi-dry transfer; Membrane: nitrocellulose (0.22 µm); Blocking: 5% skim milk in TBST, 1 hour at RT; Primary antibody: overnight at 4°C; Secondary antibody: anti-rabbit-HRP (1/6000), 2 hours at RT; Detection: Chemiluminescence.

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