

Product datasheet for **TA328614**

BDNF Rabbit Polyclonal Antibody

Product data:

Product Type:	Primary Antibodies
Applications:	IHC, WB
Recommended Dilution:	WB: 1:200-1:2000; IHC: 1:100-1:3000
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Immunogen:	Peptide (C)DEDQKVRPNEENNKDAD, corresponding to amino acid residues 72-88 of human BDNF (precursor). Pro-domain of the BDNF protein.
Specificity:	Anti-proBDNF Antibody TA328614 is a highly specific antibody directed against the prodomain region of human proBDNF. The antibody can be used in western blot, immunoprecipitation, and immunohistochemistry applications. It has been designed to recognize proBDNF from human, mouse, and rat samples. The antibody does not cross react with mature BDNF, pro- and mature NGF or mature NT-3.
Formulation:	Lyophilized. Concentration before lyophilization ~0.8mg/ml (lot dependent, please refer to CoA along with shipment for actual concentration). Buffer before lyophilization: Phosphate buffered saline (PBS) pH 7.4, 1% BSA, 0.025% NaN ₃ .
Reconstitution Method:	Add 50 ul double distilled water (DDW) to the lyophilized powder.
Purification:	Affinity purified on immobilized antigen.
Conjugation:	Unconjugated
Storage:	Store at -20°C as received.
Stability:	Stable for 12 months from date of receipt.
Gene Name:	brain-derived neurotrophic factor
Database Link:	NP_001700 Entrez Gene 12064 Mouse Entrez Gene 24225 Rat Entrez Gene 627 Human P23560



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Background:

Brain derived neurotrophic factor (BDNF) is a member of the neurotrophin family of growth factors that includes nerve growth factor (NGF) neurotrophin-3 (NT-3) and neurotrophin-4/5 (NT-4/5). All neurotrophins are synthesized as preproneurotrophin precursors that are subsequently processed within the intracellular transport pathway to yield proneurotrophins that are further processed to generate the mature form. The mature form of BDNF is a non-covalent stable homodimer that can be secreted in both constitutive and regulated pathways. Until recently, the functional role of the neurotrophin prodomains were thought to include assistance in the correct folding of the mature protein and the sorting of the neurotrophins into the constitutive or regulated secretory pathway. However, a growing body of evidence suggests that the uncleaved proneurotrophin precursors can be secreted from cells and that they may mediate different biological functions. The functional importance of the prodomain of BDNF was recently demonstrated in a study showing that a polymorphism that replaces valine for methionine at position 66 of the pro domain, is associated with memory defects and abnormal hippocampal function in humans. Another recent study showed that the regulated extracellular cleavage of proBDNF to mature BDNF by plasmin is necessary for establishing late-phase long-term potentiation (L-LTP) a process that involves long-lasting changes in the structure and function of hippocampal synapses. Finally, proBDNF was shown to be decreased in the brains of patients suffering from Alzheimer's disease. Mature BDNF binds to the specific tyrosine kinase receptor TrkB and to p75NTR, a member of the TNF receptor superfamily. ProBDNF can similarly bind both receptors although it appears to have a greater affinity for the p75NTR receptor.

Synonyms:

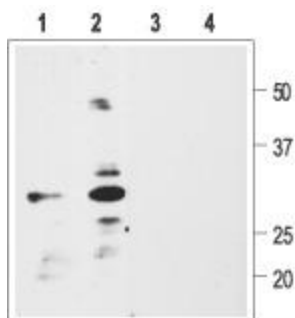
ANON2; BULN2

Protein Families:

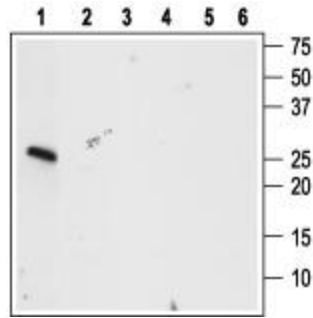
Adult stem cells, Druggable Genome, Embryonic stem cells, ES Cell Differentiation/IPS, Induced pluripotent stem cells, Secreted Protein, Transmembrane

Protein Pathways:

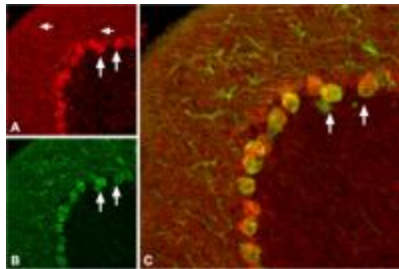
Huntington's disease, MAPK signaling pathway, Neurotrophin signaling pathway

Product images:

Western blot analysis of rat glioma C6 (1, 3) or human neuroblastoma SH-SY5Y (2, 4) cell lysate: 1, 2. Anti-proBDNF antibody (1:200). 3, 4. Anti-proBDNF antibody, preincubated with the control peptide antigen.



Western blot analysis using Anti-proBDNF antibody, (1:400): 1. proBDNF (WT-human), (20 ng). 2. proNGF (WT-human), (200 ng). 3. recombinant proNT-3 (200 ng). 4. hBDNF, (200 ng). 5. mNGF 2.5S (Grade II), (200 ng). 6. hNT-3, (200 ng).



Expression of proBDNF in rat cerebellum. Immunohistochemical staining of rat cerebellum with Anti-proBDNF antibody. proBDNF (red) appears in Purkinje cell bodies (vertical arrows) and in astrocytic processes (horizontal arrows in A) but not in Purkinje neuronal dendrites stained for calbindin D28k (green, in B) in the same brain section. C. Confocal merge of proBDNF and CBD28K demonstrates the restriction of proBDNF to Purkinje cell body.