SANTA CRUZ BIOTECHNOLOGY, INC.

# BDNF (H-117): sc-20981

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

Neurotrophins function to regulate naturally occurring cell death of neurons during development. The prototype neurotrophin is nerve growth factor (NGF), originally discovered in the 1950s as a soluble peptide promoting the survival of, and neurite outgrowth from, sympathetic ganglia. Three additional structurally homologous neurotrophic factors have been identified. These include brain-derived neurotrophic factor (BDNF), neurotrophin-3 (NT-3) and neurotrophin-4 (NT-4) (also designated NT-5). These various neurotrophins stimulate the *in vitro* survival of distinct, but partially overlapping, populations of neurons. The cell surface receptors through which neurotrophins mediate their activity have been identified. For instance, the Trk A receptor is the preferential receptor for NGF, but also binds NT-3 and NT-4. The Trk B receptor binds both BDNF and NT-4 equally well, and binds NT-3 to a lesser extent, while the Trk C receptor only binds NT-3.

## CHROMOSOMAL LOCATION

Genetic locus: BDNF (human) mapping to 11p14.1; Bdnf (mouse) mapping to 2 E3.

## SOURCE

BDNF (H-117) is a rabbit polyclonal antibody raised against amino acids 130-247 of BDNF of human origin.

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as agarose conjugate for immunoprecipitation, sc-20981 AC, 500 µg/0.25 ml agarose in 1 ml.

## APPLICATIONS

BDNF (H-117) is recommended for detection of BDNF of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

BDNF (H-117) is also recommended for detection of BDNF in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for BDNF siRNA (h): sc-42121, BDNF siRNA (m): sc-42122, BDNF shRNA Plasmid (h): sc-42121-SH, BDNF shRNA Plasmid (m): sc-42122-SH, BDNF shRNA (h) Lentiviral Particles: sc-42121-V and BDNF shRNA (m) Lentiviral Particles: sc-42122-V.

Molecular Weight of BDNF precursor: 32 kDa.

Molecular Weight of mature BDNF: 14 kDa.

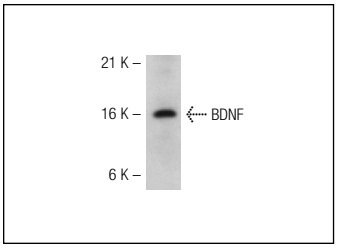
## STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

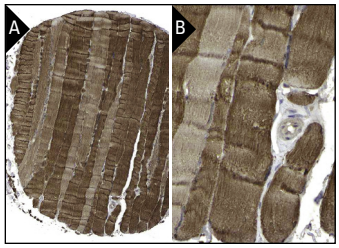
## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## DATA




BDNF (H-117): sc-20981. Western blot analysis of BDNF expression in U-87 MG whole cell lysate.




BDNF (H-117): sc-20981. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes at low (**A**) and high (**B**) magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program.

## SELECT PRODUCT CITATIONS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3. Tamburella, A., et al. 2010. The β3 adrenoceptor agonist, amibegron (SR58611A) counteracts stress-induced behavioral and neurochemical changes. Eur. Neuropsychopharmacol. 20: 704-713.
4. Liu, J.X., et al. 2011. Novel control by the CA3 region of the hippocampus on neurogenesis in the dentate gyrus of the adult rat. PLoS ONE 6: e17562.
5. Patani, N., et al. 2011. Brain-derived neurotrophic factor expression predicts adverse pathological and clinical outcomes in human breast cancer. Cancer Cell Int. 11: 23.
6. Esposito, E., et al. 2011. MK801 attenuates secondary injury in a mouse experimental compression model of spinal cord trauma. BMC Neurosci. 12: 31.
7. Jiang, Q.S., et al. 2011. Reduced brain-derived neurotrophic factor expression in cortex and hippocampus involved in the learning and memory deficit in molarless SAMP8 mice. Chin. Med. J. 124: 1540-1544.
8. Yang, X., et al. 2012. Biological influence of brain-derived neurotrophic factor on breast cancer cells. Int. J. Oncol. E-published.