

# BDNF (N-20): sc-546

## 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 1,950s 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, NGF (human) mapping to 1p13.2; Bdnf (mouse) mapping to 2 E3, Ngf (mouse) mapping to 3 F2.2.

## SOURCE

BDNF (N-20) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of BDNF of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-546 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

BDNF (N-20) is recommended for detection of precursor and mature BDNF, and to a lesser extent, NGF 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 (N-20) is also recommended for detection of precursor and mature BDNF, and to a lesser extent, NGF in additional species, including equine, canine, bovine, porcine, avian and feline.

Molecular Weight of BDNF precursor: 32 kDa.

Molecular Weight of mature BDNF: 14 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, U-87 MG cell lysate: sc-2411 or human platelet whole cell lysate: sc-363773.

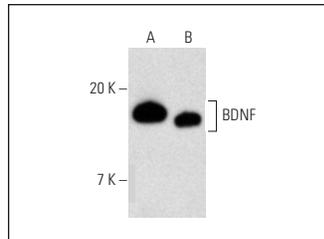
## STORAGE

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

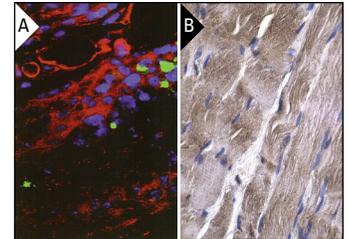
## RESEARCH USE

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

## DATA



BDNF (N-20): sc-546. Western blot analysis of BDNF expression in human platelet extract (A) and U-87 MG (B) whole cell lysates.



BDNF (N-20): sc-546. Cryostat sections of mouse skin showing hair follicle staining. Note red immunofluorescence staining, green TUNEL fluorescence staining marking apoptotic cells; and blue HOECHST 33342 nuclear counterstain. Kindly provided by Hair Research Group, Humboldt University, Berlin (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocyte cells (B).

## SELECT PRODUCT CITATIONS

- Seidah, N.G., et al. 1999. Mammalian subtilisin/kexin isozyme SKI-1: A widely expressed proprotein convertase with a unique cleavage specificity and cellular localization. *Proc. Natl. Acad. Sci. USA* 96: 1321-1326.
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