

## BACKGROUND

Trk (neurotrophin) receptors are single transmembrane catalytic receptors with intracellular tyrosine kinase activity. Trk receptors are coupled to the Ras, Cdc42/Rac/RhoG, MAPK, PI 3-K and PLCgamma signaling pathways. There are four members of the Trk family; TrkA, TrkB and TrkC and a related p75NTR receptor. p75NTR lacks tyrosine kinase activity and signals via NF-kappaB activation. Each family member binds different neurotrophins with varying affinities. TrkA potently binds nerve growth factor (NGF) and is involved in differentiation and survival of neurons and in control of gene expression of enzymes involved in neurotransmitter synthesis. TrkB has highest affinity for brain-derived neurotrophic factor (BDNF) and is involved in neuronal plasticity, longterm potentiation and apoptosis of CNS neurons. TrkC is activated by neurotrophin-3 (NT-3) and is found on proprioceptive sensory neurons. p75NTR binds neurotrophin precursors with high affinity and retains low affinity to the mature cleaved forms.<sup>1</sup> TrkA was originally identified as an oncogene as it is commonly mutated in cancers, particularly colon and thyroid carcinomas.

BDNF is a member of the nerve growth factor family. It is induced by cortical neurons, and is necessary for survival of striatal neurons in the brain. Expression of this gene is reduced in both Alzheimer's and Huntington disease patients.<sup>2</sup> BDNF may play a role in the regulation of stress response and in the biology of mood disorders.<sup>3</sup> Multiple transcript variants encoding distinct isoforms have been described for this gene.

### References:

1. Patapoutian, A. & Reichardt, L.F.: Curr. Opin. Neurobiol. 11:272-80, 2001
2. Ciammola, A. et al: Am. J. Med. Genet. Pt.B 144B:574-7, 2007
3. Duman, R.S. & Monteggia, L.M. : Biol. Psych. 59:1116-27, 2006

## TECHNICAL INFORMATION

### Source:

BDNF Antibody is a rabbit antibody raised against a short peptide from human BDNF sequence.

### Specificity and Sensitivity:

This antibody detects endogenous BDNF proteins without cross-reactivity with other family members.

**Storage Buffer:** Lyophilized from PBS buffer with 2% sucrose

### Storage:

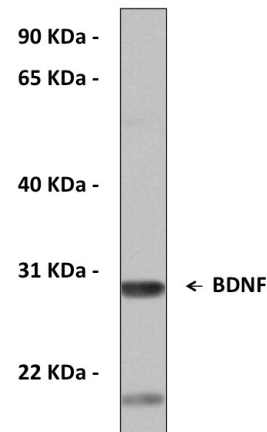
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

## APPLICATIONS

Application:	*Dilution:
WB	1 ug/mL
IP	n/d
IHC	n/d
ICC	n/d
FACS	n/d

*\*Optimal dilutions must be determined by end user.*

## QUALITY CONTROL DATA



Antibody dilution (concentration) 1 µg/mL in cell type fetal liver

