BDNF Protein, Human (R125A, R127A, R128A, solution)

Cat. No.:	HY-P72489Y
Synonyms:	Brain-derived neurotrophic factor; BDNF; Abrineurin; ProBDNF
Species:	Human
Source:	E. coli
Accession:	P23560 (A19-R247, R125A, R127A, R128A)
Gene ID:	627
Molecular Weight:	Approximately 28 kDa

PROPERTIES

Appearance	Solution
Formulation	Supplied as a 0.2 μm filtered solution of 20mM PB, 10% Trehalose, 100mM NaCl, 0.02% Tween 80, pH 6.0.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	N/A.
Storage & Stability	Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles.
Shipping	Shipping with dry ice

DESCRIPTION

Background

BDNF, a neurotrophin that belongs to NGF-beta family. BDNF is widely expressed in the CNS, gut and other tissues. BDNF regulates neurodevelopmental processes, including maturation, survival and differentiation of neuronal populations, and synaptic plasticity[1].

BDNF can bind to its high affinity receptor TrkB and activates signal transduction cascades (IRS1/2, PI3K, Akt), thereby inducing increased Ca^{2+} intake and phosphorylation of transcription factors. BDNF can also bind to the p75NTR, but the affinity for the p75NTR receptor is lower than for TrkB. The activation of p75NTR increases apoptotic and inflammatory signaling in neurons and glial cells by activation of c-Jun N-terminal kinases (JNK) and NF-κB expression, respectively[2]. In human, decreased levels of BDNF are associated with neurodegenerative diseases (such as Parkinson's disease and Alzheimer's disease) and type 2 diabetes mellitus[1]. Human BDNF shares >97% aa sequence identity with mouse and rat. Rat BDNF shares >99% aa sequence identity with mouse.

BDNF is a neurotransmitter modulator which is vital in maturation, survival and differentiation of neuronal populations during development. BDNF also participates in neuronal plasticity, which is essential for learning and memory[1].

Caution: Product has not been fully validated for medical applications. For research use only.

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