BDNF Protein, Mouse (R129A, R130A, HEK293, C-His)

Cat. No.:	HY-P74383A
Synonyms:	Brain-derived neurotrophic factor; BDNF; ProBDNF
Species:	Mouse
Source:	HEK293
Accession:	P21237-1 (A19-R249, R129A, R130A)
Gene ID:	12064
Molecular Weight:	Approximately 33-42 kDa due to the glycosylation

PROPERTIES

AA Sequence	A P M K E V N V H G Q G N L A Y P G V R T H G T L E S V N G P R A G S R G L T T T S L A D T F E H V I E E L L D E D Q K V R P N E E N H K D A D L Y T S R V M L S S Q V P L E P P L L F L L E E Y K N Y L D A A N M S M R V A A H S D P A R R G E L S V C D S I S E W V T A A D K K T A V D M S G G T V T V L E K V P V S K G Q L K Q Y F Y E T K C N P M G Y T K E G C R G I D K R H W N S Q C R T T Q S Y V R A L T M D S K K R I G W R F I R I D T S C V C T L T I K R G R
Biological Activity	Immobilized Recombinant Human BDNF at 1 μg/mL (100 μL/well) can bind Biotinylated Recombinant Human TrkB. The ED_{50} for this effect is ≤91.22 ng/mL.
Appearance	Lyophilized powder
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	The BDNF protein serves as a pivotal signaling molecule, activating cascades downstream of NTRK2 and playing diverse roles in neuronal development and function. During development, BDNF promotes the survival and differentiation of specific neuronal populations in both the peripheral and central nervous systems, influencing axonal growth, pathfinding,

and the modulation of dendritic growth and morphology. It emerges as a major regulator of synaptic transmission and plasticity in various regions of the CNS, contributing to adaptive neuronal responses such as long-term potentiation (LTP), long-term depression (LTD), certain forms of short-term synaptic plasticity, and the homeostatic regulation of intrinsic neuronal excitability. This versatility underscores its integral role in shaping neuronal connectivity and function. Additionally, BDNF activates signaling cascades through the heterodimeric receptor formed by NGFR and SORCS2, further influencing synaptic plasticity and long-term depression. Notably, its interaction with NGFR and SORCS2 is implicated in promoting neuronal apoptosis and growth cone collapse, highlighting its multifaceted impact on neuronal physiology and development.

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