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CDNF Human

Cerebral Neurotrophic Factor Human Recombinant
NTR0010

Product Overview

Name	CDNF Human
Description	
Cerebral Neurotrophic Factor Human Recombinant	
Accession (Primary)	Q49AH0
Synonyms	
Cerebral dopamine neurotrophic factor, ARMET-like protein 1, Conserved dopamine neurotrophic factor, Cdnf, Armetl1, 9330140G23.	
Introduction	
CDNF is a member of the ARMET family and acts as a trophic factor for dopamine neurons. CDNF inhibits the 6-hydroxydopamine (6-OHDA)-induced degeneration of dopaminergic neurons. When CDNF controlled after 6-OHDA-lesioning, it reestablishes the dopaminergic function and inhibits the degeneration of dopaminergic neurons in substantia nigra. CDNF is universally expressed in neuronal and non-neuronal tissues. The highest levels in the brain are found in the optic nerve and corpus callosum.	
Source	
Escherichia Coli.	
Physical Appearance	
Sterile Filtered White lyophilized (freeze-dried) powder.	
Formulation	
CDNF protein was lyophilized from a 0.2 μm filtered concentrated solution in 1xPBS, pH 7.4.	
Stability	
Lyophilized CDNF although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution CDNF should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.	
Purity	
Greater than 97.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.	
Amino acid sequence	
QGLEAGVGPR ADCEVCKEFL DRFYNSLLSR GIDFSADTIE KELLNFCSDA KGKENRLCYY LGATTDAATK ILGEVTRPMS VHIPAVKICE KLKKMDSQIC ELKYGKKLDL ASVDLWKMRV AELKQILQRW GEECRACAEK	

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Biological Activity

CDNF Mouse is able to enhance neurite outgrowth of E16-E18 rat embryonic cortical neurons when immobilized at 5-30 µg/mL on a nitrocellulose-coated microplate.

Solubility

It is recommended to reconstitute the lyophilized CDNF in sterile 18M-cm H 2 O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Precautions

CDNF Human is for research use only and not for use in diagnostic or therapeutic procedures.

Target Information: (Q49AH0)

Background

Cerebral Neurotrophic Factor Human Recombinant: A Leap Forward in Neurobiology The field of neurobiology is replete with wonder, particularly due to the influential role of neurotrophic factors. These essential proteins, responsible for the survival and growth of neurons, have become a focal point in modern research. Among these, the Cerebral Neurotrophic Factor (CNF) stands out, offering novel insights and potential breakthroughs in our understanding of neurological health. Enter the world of bioengineering, a scientific arena where we have successfully replicated CNF, leading to the birth of Cerebral Neurotrophic Factor Human Recombinant (CNF-HR). This is a massive step towards conquering neurodegenerative disorders such as Alzheimer's and Parkinson's diseases, conditions that have perplexed scientists and clinicians for decades. The extraordinary capacity of CNF-HR lies in its dual functionality - it acts as a defender and a promoter. It defends neurons from harmful degenerative processes while promoting their growth and development. Picture a devoted gardener who tirelessly protects his garden from pests and nurtures the growth of each plant. In this context, the brain is the vibrant garden, and the neurons, the delicate plants we must care for. Although this scientific breakthrough sparks enthusiasm, it's crucial to remember the challenges that lie ahead. The path to determining the most effective method of delivering CNF-HR to the brain, identifying the optimal dosage, and monitoring potential side effects is a winding one. Nevertheless, with continuous research and relentless scientific curiosity, we are optimistic about overcoming these challenges. In conclusion, the development of CNF-HR is a significant milestone in the fascinating journey of neurobiology. Its potential to change the trajectory of treating neurodegenerative diseases and enhancing our understanding of neuronal function is tremendous. While the journey is strewn with complexities, the potential rewards we stand to reap promise a future where neurodegenerative

diseases could be effectively managed or even cured.

References for protein:

Bibliography "Cerebral dopamine neurotrophic factor transfection in dopaminergic neurons using a neurotensin-polyplex nanoparticle system: New therapeutic tool for Parkinson's disease", Neural Regeneration Research, 2023 "Neurotrophins: role in neuron function and survival", Trends in Molecular Medicine, 2017 "Therapeutic potential of neurotrophic factors in neurological disorders", Pharmacological Reviews, 2018 1 .