Data Sheet (Cat.No.TMPY-01916)

TargetMol

CDNF Protein, Mouse, Recombinant (His)

General Information

Synonyms:	Armetl1;cerebral dopamine neurotrophic factor;9330140G23
Protein Construction:	A DNA sequence encoding the mouse CDNF (NP_808315.1) (Met 1-Leu 187) was expressed, with a polyhistidine tag at the C-terminus. Predicted N terminal: Gln 25
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	Q8CC36
Molecular Weight:	20 kDa (predicted); 20 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Cerebral Dopamine Neurotrophic Factor (CDNF), also known as ARMETL1 (ARMET-like protein 1), is a secreted protein with eight conserved cysteine residues, predicting a unique protein fold and defining a new, evolutionarily conserved protein family. CDNF is a novel neurotrophic factor with strong trophic activity on dopaminergic neurons comparable to that of glial cell line-derived neurotrophic factor (GDNF). CDNF/ARMETL1 is a evolutionary conserved protein which can protect and restore the function of dopaminergic neurons in the rat model of

Parkinson's disease, suggesting that CDNF might be beneficial for the treatment of Parkinson's disease. CDNF is widely expressed in neurons in several brain regions including cerebral cortex, hippocampus, substantia nigra, striatum and cerebellum. Human CDNF is glycosylated and secreted from transiently transfected cells. CDNF promotes the survival, growth, and function of dopamine-specific neurons and is expressed in brain regions that undergo cocaine-induced neuroplasticity.

Reference

Choi JM, et al. (2011) Analysis of mutations and the association between polymorphisms in the cerebral dopamine neurotrophic factor (CDNF) gene and Parkinson disease. Neurosci Lett. 493(3): 97-101.
Sun ZP, et al. (2011) Intracellular trafficking and secretion of cerebral dopamine neurotrophic factor in neurosecretory cells. J Neurochem. 117(1): 121-32.
Lohoff FW, et al. (2009) Association analysis between polymorphisms in the conserved dopamine neurotrophic factor (CDNF) gene and cocaine dependence. Neurosci Lett. 453(3): 199-203.
Lindholm P, et al. (2007) Novel neurotrophic factor CDNF protects and rescues midbrain dopamine neurons in vivo. Nature. 448(7149): 73-7.

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