

Recombinant Human GDNF (Glial-Derived Neurotrophic Factor)

Product Description

GDNF is a disulfide-linked, homodimeric neurotrophic factor structurally related to Artemin, Neurturin and Persephin. These proteins belong to the cysteine-knot superfamily of growth factors that assume stable dimeric protein structures. GDNF signals through a multicomponent receptor system, composed of a RET and one of the four GFR α (α 1- α 4) receptors. GDNF specifically promotes dopamine uptake and survival, and morphological differentiation of midbrain neurons. Using a Parkinson's disease mouse model, GDNF has been shown to improve conditions such as bradykinesia, rigidity, and postural instability. The functional human GDNF ligand is a disulfide-linked homodimer consisting of two 15 kDa polypeptide chains called monomers. Each monomer contains seven conserved cysteine residues, including Cys-101, which is used for inter-chain disulfide bridging, and others that are involved in the intramolecular ring formation known as the cysteine knot configuration.

Typical Specifications

Species	Human
Expression	E. coli Cell Expressed
Activity	Typically 1.0-10.0 ng/mL ED ₅₀
Purity	>98%
Endotoxin	<1.0 EU/ μ g
Molecular Mass	30.4 kDa, homodimeric
Formulation	10 mM Sodium Citrate + 150 mM NaCl
Country of Origin	USA

Purity Confirmation

This was determined by SDS-PAGE gel and HPLC analysis.

Activity Assay

Determined by a cell proliferation assay using SH-SY5Y cells.

AA Sequence

MSPDKQMAVL	PRRERNRQAA	AANPENSRGK
GRRGQRGKNR	GCVLTAIHLN	VTDLGLGYET
KEELIFRYCS	GSCDAAETTY	DKILKNLARN
RRLVSDKVGQ	ACCRPIAFDD	DLSFLDDNLV
YHILRKHSAK	RCGCI	

Reconstitution Buffer

Centrifuge the vial prior to opening.
Reconstitute in water to a concentration of 0.1-1.0 mg/ml. Do not vortex.

Storage

For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% HSA) and store in working aliquots at -20°C to -80°C.

Limited Use and Restrictions

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