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GDNF Recombinant Protein

CATALOG NUMBER: 40-499

Specifications

SPECIES:	Human
SOURCE SPECIES:	E. coli
SEQUENCE:	MSPDKQMAVL PRRERNRQAA AANPENSRGK GRRGQRGKNR GCVLTAIHLN VTDLGLGYET KEELIFRYCS GSCDAAETTY DKILKNLSRN RRLVSDKVGQ ACCRPIAFDD DLSFLDDNLV YHILRKHSAK RCGCI
TESTED APPLICATIONS:	
BIOLOGICAL ACTIVITY:	Determined by a cell proliferation assay using SH-SY5Y cells. The expected ED50 for this effect is 1.0-10.0 ng/ml.

Properties

PURITY:	Greater than 98% by SDS-PAGE gel and HPLC analyses. Endotoxin level is less than 0.1 ng per ug (1EU/ug).
PHYSICAL STATE:	Lyophilized
STORAGE CONDITIONS:	The lyophilized GDNF recombinant protein is stable for at least 2 years from date of receipt at -20˚C. Reconstituted GDNF is stable for at least 3 months when stored in working aliquots with a carrier protein at -20˚C. As with any protein, exposing GDNF recombinant protein to repeated freeze / thaw cycles is not recommended. When working with proteins care should be taken to keep recombinant protein at a cool and stable temperature.

Additional Info

ALTERNATE NAMES:	ATF1, ATF2, HSCR3, HFB1-GDNF, Glial cell line-derived neurotrophic factor, Astrocyte-derived trophic factor, hGDNF
ACCESSION NO.:	NP_000505.1
PROTEIN GI NO.:	4503975

Background

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 GFRalpha (alpha1-alpha4) receptors. GDNF specifically promotes dopamine uptake and survival and morphological differentiation of midbrain neurons. Using 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, of two 15 kDa polypeptide chains called monomers. Each monomer contains seven conserved cysteine residues, one of which (Cys 101) is used for inter-chain disulfide bridging and the others are involved in intramolecular ring formation known as the cysteine knot configuration.

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