

Recombinant Human GDNF

Accession #	P39905
Alternate Names	GDNF; ATF; ATF1; ATF2; glial cell derived neurotrophic factor; HFB1-GDNF; HGDNF; HSCR3
Source	Human embryonic kidney cell, HEK293-derived human GDNF protein
Protein sequence	Arg109-Ile211
M.Wt	11.6 kDa (monomer)
Appearance	Solution protein.
Stability & Storage	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 3 years from date of receipt, -20 to -70 °C as supplied.
Concentration	0.2 mg/mL
Formulation	Dissolved in sterile PBS buffer.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. This solution can be diluted into other aqueous buffers.
Biological Activity	Measured in a cell proliferation assay using SH-SY5Y human neuroblastoma cells. The EC50 for this effect is 0.1-2 ng/mL
Shipping Condition	Shipping with dry ice.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Quality Control

Purity	> 95%, determined by SDS-PAGE.
Endotoxin	<0.010 EU per 1 ug of the protein by the LAL method.

Description

Glial Cell Line-derived Neurotrophic Factor (GDNF) is a neurotrophic factor that has been shown to promote the survival of various neuronal subpopulations in both the central as well as the peripheral nervous systems at different stages of their development. Neuronal subpopulations that have been shown to be affected by GDNF include motoneurons, midbrain dopaminergic neurons, Purkinje cells and sympathetic neurons. Native GDNF, a disulfide-linked homodimeric glycoprotein, is a novel member of the TGF-beta superfamily. Human GDNF cDNA encodes a 211 amino acid residue prepropeptide that is processed to yield a dimeric protein. Mature human GDNF was predicted to contain two 134 amino acid residue subunits. NS0 expressed mature human GDNF lacks 31 residues from the amino-terminus of the predicted sequence. This glycosylated recombinant mature human GDNF still contains the seven conserved Cys residues found in all members of the TGF-beta

superfamily and is biologically active. The GDNF sequence contains two potential glycosylation sites and insect cell-expressed recombinant rat GDNF proteins are glycosylated. Mature rat and human GDNF exhibit approximately 93% amino acid sequence identity and show considerable species cross-reactivity. Cells known to express GDNF include Sertoli cells, type 1 astrocytes, Schwann cells, neurons, pinealocytes and skeletal muscle cells.

Reference

- [1]. Oppenheim RW, et al. (1995) Nature. 373 (6512): 344-6.
- [2]. Tomac A, et al. (1995) Nature. 373 (6512): 335-9.
- [3]. Schindelhauer D, et al. (1996) Genomics. 28 (3): 605-7.

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