

Active Recombinant Human GDNF,His-tagged

Cat. No. GDNF-8858H Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant Human GDNF was produced in the endosperm tissue of barley grain (<i>Hordeum vulgare</i>).
Species	Human
Source	Hordeum Vulgare
Description	Glial cell line derived neurotrophic factor (GDNF) is a protein promoting the survival of various neuronal subpopulations at different stages of development. These include dopaminergic neurons in midbrain, GDNF stimulates their survival, differentiation and high-affinity dopamine uptake. The use of GDNF in the treatment of Parkinson's disease and spinal cord injuries has shown promising results. GDNF belongs to the TGF- β superfamily, it is a homodimeric protein with the familial cysteine-knot structure.
Predicted N Terminal	His
Form	Sterile filtered through a 0.2 μ m filter. Lyophilized from PBS, pH 7.2
Bio-activity	The bioassay measures the ability of GDNF to differentiate mouse Embryonic Stem Cells into dopaminergic neurons (TH positive). Once fixed, the cells are immunostained for Tuj1 (a marker for common neurons), TH (marker for dopaminergic neurons) and the nuclear dye Dapi and the TH positive cells in each Tuj1 positive colony are estimated (Barberi et al, 2003).rh GDNF at concentration of 20 ng/ml successfully differentiated mouse ES cells to dopaminergic neurons and outperformed

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	GDNF from another commercial source. Lowest limit of active GDNF concentration was not determined.
Molecular Mass	Recombinant human GDNF contains 134 amino acids and a 16 a.a. histidine-based tag for a total length of 150 a.a. and has a predicted molecular mass of 17.2 kDa including his-tag. As a result of glycosylation, the recombinant protein migrates with an apparent molecular mass of 25 kDa in SDS-PAGE.
Endotoxin	Endotoxin level is less than 0.05EU/g as measured by turbidimetric kinetic assay.
Purity	> 95% by SDS-PAGE gel analysis.
Storage	The lyophilized protein, though stable at room temperature for few weeks, is best stored at -20°C. Reconstituted protein should be used immediately or stored in working aliquots at -20°C. Avoid repeated freeze-thaw cycles.
Reconstitution	It is recommended to reconstitute the lyophilized protein in sterile water to a concentration of no less than 100 µg/ml. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

GENE INFORMATION

Gene Name	GDNF glial cell derived neurotrophic factor [Homo sapiens]
Official Symbol	GDNF
Synonyms	GDNF; glial cell derived neurotrophic factor; glial cell line-derived neurotrophic factor; astrocyte derived trophic factor; ATF1; ATF2; glial cell line derived neurotrophic factor; glial derived neurotrophic factor; HFB1 GDNF; ATF; astrocyte-derived trophic factor; HSCR3; HFB1-GDNF;

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Gene ID	2668
mRNA Refseq	NM_000514
Protein Refseq	NP_000505
MIM	600837
UniProt ID	P39905
Chromosome Location	5p13.1-p12
Pathway	Axon guidance, organism-specific biosystem; Developmental Biology, organism-specific biosystem; NCAM signaling for neurite out-growth, organism-specific biosystem; NCAM1 interactions, organism-specific biosystem; Signaling events regulated by Ret tyrosine kinase, organism-specific biosystem;
Function	growth factor activity; protein homodimerization activity; receptor binding;

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