

Recombinant Human Glial-derived Neurotrophic Factor (GDNF)

Certificate of Analysis and Data Sheet

➤ Source: E.Coli	➤ Catalog No. CTK-305
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➤ **Background :**

This factor was found initially in conditioned medium of the rat B49 glial cell line. GDNF is a disulfide-bonded homodimeric glycosylated protein of 134 amino acids. The proteins contain seven conserved cysteine residues in the same relative spacing found in all members of the TGF-beta superfamily of proteins. The human GDNF gene has been mapped to chromosome 5p13.1-p13.3. Related factors are Neurturin, Persephin, and Artemin. Collectively they are being referred to as GDNF family ligands.

➤ **Description :**

Recombinant Human Glial-derived Neurotrophic Factor (GDNF) produced in E.Coli is a homodimer, non-glycosylated, polypeptide chain containing 2 x 135 amino acids and having a total molecular mass of 30,360 Dalton. Recombinant GDNF is purified by proprietary chromatographic techniques.

➤ **Physical Appearance:**

Sterile Filtered White Lyophilized (freeze-dried) powder.

➤ **Formulation:**

Recombinant GDNF was lyophilized after dialysis against 10 mM sodium citrate and 150mM NaCl.

➤ **Solubility:**

It is recommended to reconstitute the lyophilized GDNF in sterile 18MO-cm H2O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.

➤ **Stability:**

Lyophilized GDNF although stable at room temperature for 3 weeks, should be stored desiccated below -18 C. Upon reconstitution GDNF should be stored at 4 C between 2-7 days and for future use below -18 C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Please avoid freeze-thaw cycles.

➤ **Purity:**

Greater than 98.0% as determined by:

(a) Analysis by RP-HPLC.

(b) Anion-exchange FPLC.

(c) Analysis by reducing and non-reducing SDS-PAGE Silver Stained.

➤ **Amino-Acid Sequence :**

The sequence of the first five N-terminal amino acids was determined and was found to be Met-Ser-Pro-Asp-Lys.

➤ **Dimers and aggregates:**

Less than 1% as determined by silver-stained SDS-PAGE gel analysis.

➤ **Biological Activity:**

This Glial-Derived Neurotrophic Factor is fully biologically active when compared to standard. The ED50, calculated by the dose-dependant dopamin uptake in rat mesencephalic cultures was found to be 5-10 ng/ml.

➤ **Endotoxin:**

Less than 0.1 ng/μg (IEU/μg) of Recombinant Glial-derived Neurotrophic Factor.

➤ **Protein content:**

Protein quantitation was carried out by two independent methods:

1. UV spectroscopy at 280 nm .

2. Analysis by RP-HPLC, using a calibrated solution of Recombinant Glial-derived Neurotrophic Factor as a Reference Standard.

➤ **Usage:**

This material is offered for research, laboratory or further evaluation purposes.