

**Synonym**

GDNF,ATF

**Source**

Human GDNF Protein, premium grade(GDF-H5219) is expressed from human 293 cells (HEK293). It contains AA Ser 78 - Ile 211 (Accession # [P39905-1](#) ).

Predicted N-terminus: Ser 78

*It is produced under our rigorous quality control system that incorporates a comprehensive set of tests including sterility and endotoxin tests. Product performance is carefully validated and tested for compatibility for cell culture use or any other applications in the early preclinical stage. When ready to transition into later clinical phases, we also offer a custom GMP protein service that tailors to your needs. We will work with you to customize and develop a GMP-grade product in accordance with your requests that also meets the requirements for raw and ancillary materials use in cell manufacturing of cell-based therapies.*

**Molecular Characterization**

**GDNF(Ser 78 - Ile 211)**  
**P39905-1**

This protein carries no "tag"

The protein has a calculated MW of 15.1 kDa. The protein migrates as 15-22 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

**Endotoxin**

Less than 0.1 EU per µg by the LAL method.

**Sterility**

The sterility testing was performed by membrane filtration method.

**Mycoplasma**

Negative.

**Purity**

>90% as determined by SDS-PAGE.

>90% as determined by SEC-MALS.

**Formulation**

Lyophilized from 0.22 µm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

**Reconstitution**

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

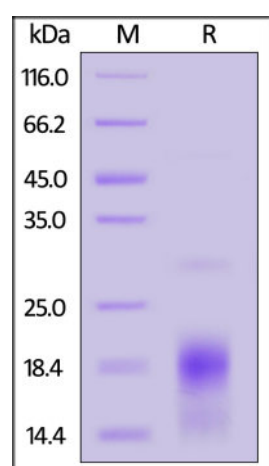
**Storage**

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

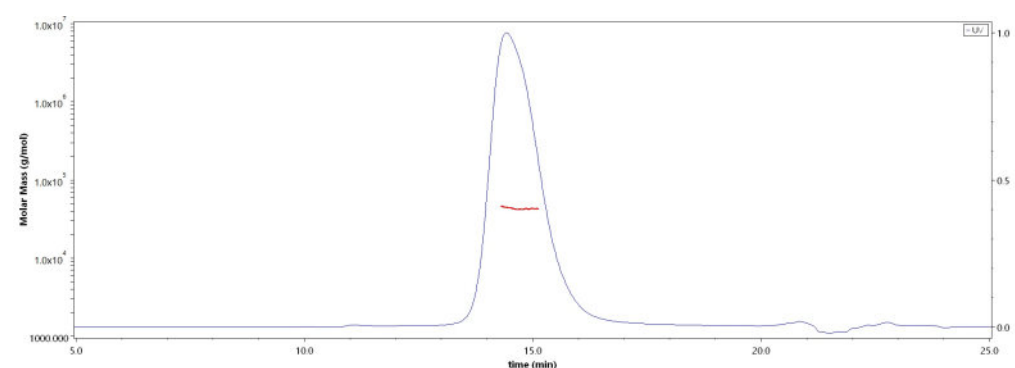
*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

**SDS-PAGE**

Human GDNF Protein, premium grade on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90%.

**Bioactivity-Organoid Culture****SEC-MALS**

The purity of Human GDNF Protein, premium grade (Cat. No. GDF-H5219) is more than 90% and the molecular weight of this protein is around 35-45 kDa verified by SEC-MALS.

[Report](#)



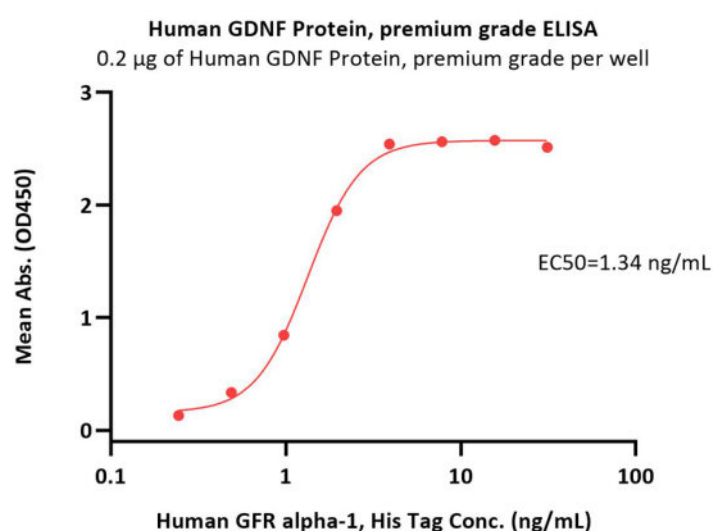
iPSC derived human brain organoids, expressing neuron marker TUJ1 (green) and neuron stem cell marker NESTIN (red), were cultured for 36 days with BDNF (Cat. No. BDF-H5219) and GDNF (Cat. No. GDF-H5219). H&E staining showed brain organoids had classic neuron stem cell rosettes histology.

### Bioactivity-Stem Cell Culture



iPSC derived neurons forming axon net-works were cultured with differentiation protocol, including BDNF (Cat. No. BDF-H5219) and GDNF (Cat. No. GDF-H5219).

### Bioactivity-ELISA



Immobilized Human GDNF Protein, premium grade (Cat. No. GDF-H5219) at 2 µg/mL (100 µL/well) can bind Human GFR alpha-1, His Tag (Cat. No. GF1-H5224) with a linear range of 0.2-4 ng/mL (QC tested).

### Background

Glial cell line-derived neurotrophic factor (GDNF) is a neurotrophic factor that enhances survival and morphological differentiation of dopaminergic neurons and increases their high-affinity dopamine uptake. GDNF is a glycosylated, disulfide-bonded homodimer that is a distantly related member of the transforming growth factor-beta superfamily. The GDNF family members (consists of GDNF, neurturin, artemin and persephin) are structurally similar to transforming growth factor-beta. Unlike other members of the TGF-beta superfamily, which signal through the receptor serine-threonine kinases, GDNF family ligands activate intracellular signalling cascades via the receptor tyrosine kinase Ret. GDNF family ligands binds to GDNF family receptor alpha (GFRalpha) and then the GDNF family ligand-GFR alpha complex binds to and stimulates autophosphorylation of Ret.

### Clinical and Translational Updates

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.

