

GMP Recombinant Human GDNF (carrier-free)

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| Catalog# / Size | 798425 / 100 µg |
| Other Names | HGDNF, HFB1-GDNF, ATF1, ATF2, ATF, HSCR3 |
| Description | <p>Glial cell line-derived neurotrophic factor (GDNF) is a member of the TGF-β superfamily and was first identified as a growth factor supporting the survival of embryonic midbrain neurons. GDNF has been shown to promote the development, differentiation, and survival of dopaminergic neurons by signaling through GDNF family receptor α-1 (GFRα1) and the coreceptor RET receptor tyrosine kinase. Dysregulated expression of GDNF has been reported to be associated with several mental diseases, which include depression and schizophrenia. GDNF is considered as a promising therapeutic agent for the treatment of Parkinson's disease because it can protect dopaminergic neurons from neurotoxins and promotes neuron regeneration after injury. In addition to the functions in the nervous system, GDNF is also required for the differentiation of spermatogonia and kidney development. Upregulated expression of GDNF was observed in various cancer cell lines and correlates with malignant cancer progression, suggesting a role of GDNF in carcinogenesis.</p> |
| Quality Statement | <p>BioLegend Cell-Vive™ GMP Recombinant proteins are manufactured and tested in accordance with USP Chapter 1043, Ancillary Materials for Cell, Gene and Tissue-Engineered Products and Ph. Eur. Chapter 5.2.12 in a dedicated GMP facility compliant with ISO 13485:2016. Specifications and processes include:</p> <ul style="list-style-type: none">• Low endotoxin level (<0.1 EU/µg)• Purity (≥ 95% or higher)• Bioburden testing• Mycoplasma testing• Batch-to-batch consistency• Vendor qualification• Raw material traceability and documentation• Documented procedures and employee training• Equipment maintenance and monitoring records• Lot-specific certificates of analysis• Quality audits per ISO 13485:2016• QA review of released products |

Product Details

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| Source | Human GDNF, amino acid Ser78-Ile211 (Accession # P39905) with Met in the amino terminus was expressed in <i>E.coli</i> . |
| Molecular Mass | The 135 amino acid recombinant protein has a predicted molecular mass of approximately 15.1 kD. The DTT-reduced and non-reduced proteins migrate at approximately 15 kD and 28 kD by SDS-PAGE, respectively. The predicted N-terminal amino acid is Met. |
| Purity | > 95%, as determined by Coomassie stained SDS-PAGE. |
| Formulation | Protein was lyophilized from 0.22 µm filtered solution containing 0.1% TFA, 10% Acetonitrile containing no preservative. |
| Endotoxin Level | Less than 0.1 EU per µg of protein as determined by the LAL method. |
| Concentration | 100 µg size is lyophilized |
| Storage & Handling | Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C or colder until the expiration date. Reconstitute lyophilized protein in sterile 4 mM HCL. Before reconstitution, make sure sterile 4 mM HCL acid and product are at room temperature. Quickly spin the vial or gently tap down on the vial to make sure the lyophilized product is at the bottom of the vial before opening. Use aseptic techniques to add the required volume of reconstitution buffer (sterile 4 mM HCL) to the vial, to obtain the recommended stock concentration 250 µg/mL. Close the vial and leave at ambient temperature for 15-20 minutes. Then gently invert the vial several times or until all of the lyophilized product dissolves. Leave the vial at room temperature for another 15 minutes. If small particulates are still observed after 15 minutes, incubate at room temperature for an additional 30 minutes and leave the vial at 2°C - 8°C overnight. Next day, invert the vial several times or gently pipette the solution up and down before use. If needed, transfer the reconstituted stock solution to a sterile container for additional dilution to no less than 100 µg/mL. |

Small working aliquots in polypropylene tubes can be made after reconstitution and store the vials at -20°C or lower. Avoid freeze/ thaw cycles. Carrier protein such as 0.2 - 1% endotoxin-free BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to two weeks or stored at -20°C or colder for up to 3 months.

Activity Immobilized GMP Recombinant Human GDNF binds human GFR α 1 (Cat. No. 788102) in a dose-dependent manner. The ED₅₀ for this effect is 10 – 50 ng/mL.

Application [Bioassay](#)

Application Notes Our lyophilized proteins are validated in-house to maintain activity after shipping at ambient temperature and are backed by our [100% satisfaction guarantee](#). If you have any concerns, contact us at tech@biolegend.com.

Disclaimer BioLegend Cell-Vive™ GMP Recombinant proteins are for research use only. Suitable for *ex vivo* cell processing. Not for injection or diagnostic or therapeutic use. Not for resale. BioLegend will not be held responsible for patent infringement or other violations that may occur with the use of our products.

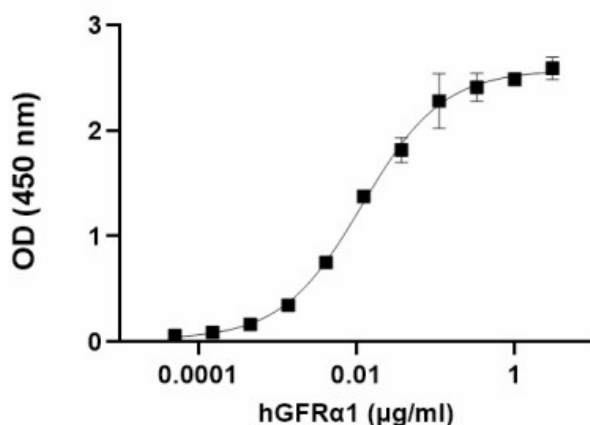
Antigen Details

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| Structure | Dimer |
| Function | Promote the development, differentiation, and survival of dopaminergic neurons |
| Ligand/Receptor | GDNF family receptor α -1 (GFR α 1), possesses lower affinity for GFR α 2, GFR α 3, and GFR α 4. |
| Bioactivity | Measured by its ability to bind Recombinant Human GFR α 1 |
| Cell Sources | GDNF is a secreted protein that is widely expressed in the developing and adult central nervous system. Participates in the recovery process after brain surgery. |
| Cell Targets | Neuronal cells expressing GDNF family receptors |
| Antigen References | |

1. Allen SJ, *et al.* 2013. *Pharmacol Ther.* 138:155-75.
2. Hendrich J, *et al.* 2012. *Neuroscience.* 219:204-13.
3. Hidalgo-Figueroa M, *et al.* 2012. *J Neurosci.* 32:864-72.
4. Pascual A, *et al.* 2011. *J Mol. Endocrinol.* 3:R83-92.
5. Carnicella S, *et al.* 2009. *Pharmacol Ther.* 122:9-18.
6. Sariola H, *et al.* 2003. *J Cell Sci.* 116:3855-62.

Gene ID [2668](#)

Product Data



When Recombinant Human GDNF is immobilized at 0.5 μ g/mL, Recombinant Human GFR α 1 binds in a dose-dependent manner. HRP Protein A (Cat. No. 689202) was used to detect the binding. The ED₅₀ for this effect is 10 – 50 ng/mL.

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