

GMP Ultra-LEAF™ Purified anti-GDNF Antibody

Catalog# / Size	670905 / 100 µg
Clone	A16099G
Other Names	Glial cell line-derived neurotrophic factor, Astrocyte-derived trophic factor (ATF), ATF1, ATF2, HSCR3, HFB1-GDNF
Isotype	Mouse IgG2b, κ
Description	Glial cell-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 promote 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.

Product Details

Reactivity	Human
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Recombinant human GDNF
Formulation	0.1 µm filtered in phosphate-buffered solution, pH 7.2, containing no preservative. Endotoxin level is < 0.01 EU/µg of the protein (< 0.001 ng/µg of the protein) as determined by the LAL test.
Preparation	The Ultra-LEAF™ (Low Endotoxin, Azide-Free) antibody was purified by affinity chromatography.
Concentration	0.5 mg/mL
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C. This Ultra-LEAF™ solution contains no preservative; handle under aseptic conditions.
Application	Neut - <i>Quality tested</i>
Recommended Usage	Each lot of this antibody is quality control tested by blocking the binding between recombinant human GFRα and recombinant human GDNF (Cat. No. 760402). The ND ₅₀ range is 0.05 - 0.4 µg/mL. It is recommended that the reagent be titrated for optimal performance for each application.
Disclaimer	<p>GMP Ultra-LEAF™ antibodies. BioLegend GMP Ultra-LEAF™ antibodies are manufactured in a dedicated GMP facility and compliant with ISO 13485:2016. For research or <i>ex vivo</i> cell processing use. Not for use in diagnostic or therapeutic procedures. Our processes include:</p> <ul style="list-style-type: none"> • Batch-to-batch consistency • Material traceability • Documented procedures • Documented employee training • Equipment maintenance and monitoring records • Lot-specific certificates of analysis • Quality audits per ISO 13485:2016 • QA review of released products

BioLegend GMP Ultra-LEAF™ antibodies 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.

Antigen Details

Structure	Disulfide-linked homodimer
Distribution	GDNF is a secreted protein that is widely expressed in the developing and adult central nervous system.

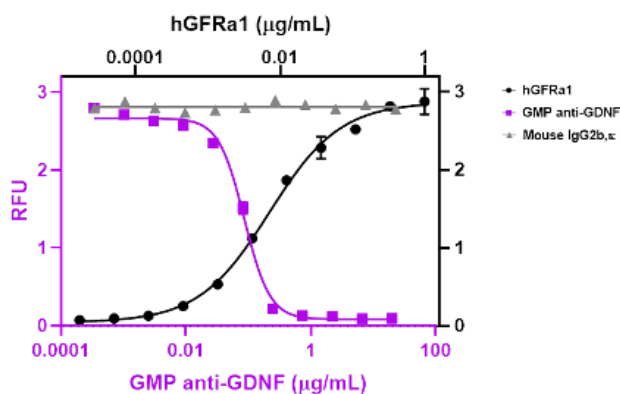
Function	GDNF is a neurotrophic factor that promotes the development, differentiation, and the survival of dopaminergic neurons. It also participates in the recovery process after brain surgery.
Interaction	GDNF targets the neuronal cells expressing GDNF family receptors.
Ligand/Receptor	GDNF interacts with GDNF family receptor α -1 (GFR α 1) and has a lower affinity with GFR α 2, GFR α 3, and GFR α 4.
Cell Type	Embryonic Stem Cells, Mature Neurons, Neural Stem Cells, Neurons, Schwann Cells
Biology Area	Cell Biology, Neuroscience, Stem Cells, Synaptic Biology
Molecular Family	Growth Factors
Antigen References	<ol style="list-style-type: none"> 1. Allen SJ, et al. 2013. Pharmacol Ther. 138:155. 2. Hendrich J, et al. 2012. Neuroscience. 219:204. 3. Hidalgo-Figueroa M, et al. 2012. J Neurosci. 32:864. 4. Pascual A, et al. 2011. J Mol Endocrinol. 3:R83-92. 5. Carnicella S, et al. 2009. Pharmacol Ther. 122:9. 6. Sariola H, et al. 2003. J Cell Sci. 116:3855.

Gene ID 2668

Other Formats

Ultra-LEAF™ Purified anti-GDNF

Product Data



Recombinant human GFR α 1 (black circles) binds to immobilized recombinant human GDNF (Cat. No. 760402). GMP anti-GDNF antibody (purple squares, clone A16099G) inhibits the binding in a dose-dependent manner while the isotype control (grey triangles, Cat. No. 401215) does not have the effect. This antibody blocks the binding of 0.2 μ g/mL recombinant human GFR α 1 protein to 0.5 μ g/mL of immobilized recombinant human GDNF with an ND₅₀ range of 0.05 - 0.4 μ g/mL

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8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com
Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587