

Recombinant Human GDNF Protein

Cat. No. GDNF-18H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human GDNF protein without tag was expressed in E. coli. Animal-free (AOF) and carrier protein-free. Mass spectrometry: single species with expected mass. Recovery from stock vial: >95%
Species	Human
Source	E.coli
Description	This gene encodes a secreted ligand of the TGF-beta (transforming growth factor-beta) superfamily of proteins. Ligands of this family bind various TGF-beta receptors leading to recruitment and activation of SMAD family transcription factors that regulate gene expression. The encoded preproprotein is proteolytically processed to generate each subunit of the disulfide-linked homodimer. The recombinant form of this protein, a highly conserved neurotrophic factor, was shown to promote the survival and differentiation of dopaminergic neurons in culture, and was able to prevent apoptosis of motor neurons induced by axotomy. This protein is a ligand for the product of the RET (rearranged during transfection) protooncogene. Mutations in this gene may be associated with Hirschsprung disease and Tourette syndrome. This gene encodes multiple protein isoforms that may undergo similar proteolytic processing.
Molecular Mass	15.1 kDa monomer, 30.1 kDa dimer

 Tel: 1-631-559-9269 1-516-512-3133

 Email: info@creative-biomart.com  Fax: 1-631-938-8127

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Endotoxin	<0.005 EU/μg protein (below level of detection)
Applications	Differentiation of midbrain dopaminergic neurons
Storage	Resuspend in water at >100 μg/mL, prepare single use aliquots, add carrier protein if desired and store frozen at -20 or -80 centigrade
Storage Buffer	Lyophilized from acetonitrile, TFA

GENE INFORMATION

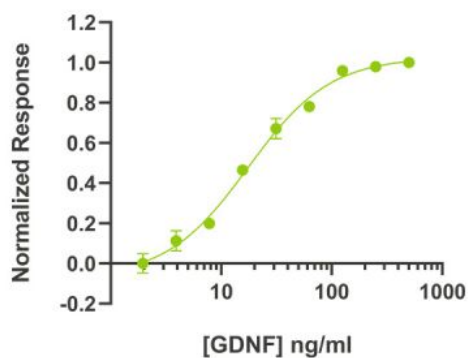
Gene Name	GDNF glial cell derived neurotrophic factor [Homo sapiens (human)]
Official Symbol	GDNF
Synonyms	GDNF; glial cell derived neurotrophic factor; ATF; ATF1; ATF2; HSCR3; HFB1-GDNF; glial cell line-derived neurotrophic factor; astrocyte-derived trophic factor
Gene ID	2668
mRNA Refseq	NM_000514
Protein Refseq	NP_000505
MIM	600837
UniProt ID	P39905

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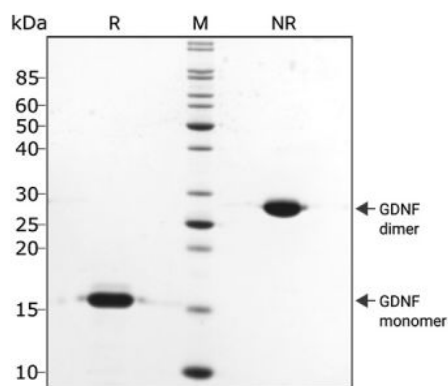
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Bioactivity



GDNF activity is determined using a SH-SY5Y cell proliferation assay. Cells were incubated with different concentrations of GDNF in the presence of retinoic acid and recombinant GFR $\alpha 1$ for 3 days before viable cell measurement using an MTS assay. EC₅₀ = 18 ng/mL

Purity



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GDNF migrates as a single band at 30 kDa in non-reducing conditions and 15 kDa upon reduction (R). No contaminating protein bands are visible. Purified recombinant protein was resolved using 15% w/v SDS-PAGE in reduced and non-reduced conditions and stained with Coomassie Brilliant Blue R250.

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