



Rat glial cell line-derived neurotrophic factor, GDNF ELISA KIT

Product Code	CSB-E04566r
Abbreviation	GDNF
Target Name	glial cell derived neurotrophic factor
Uniprot No.	Q07731
Alias	ATF1, ATF2, HFB1-GDNF, astrocyte-derived trophic factor glial cell line derived neurotrophic factor
Product Type	ELISA Kit
Immunogen Species	Rattus norvegicus (Rat)
Sample Types	serum, plasma, cell culture supernates
Detection Range	31.25 pg/mL-2000 pg/mL
Sensitivity	7.81 pg/mL
Assay Time	1-5h
Sample Volume	50-100ul
Detection Wavelength	450 nm
Lead Time	3-5 working days after you place the order, and it takes another 3-5 days for delivery via DHL or FedEx.
Research Area	Neuroscience
Gene Names	Gdnf
Tag Info	quantitative
Protein Description	Sandwich

Description

The rat GDNF ELISA Kit is engineered for accurate measurement of rat GDNF levels from samples including serum, plasma, or cell culture supernates. It uses the Sandwich-ELISA mechanism in combination with the enzyme-substrate chromogenic reaction to measure the GDNF content in the sample. The color intensity is positively correlated with GDNF content in the sample. The GDNF concentration can be calculated according to the standard curve. This kit is tested with high sensitivity, strong specificity, good linearity, high precision and recovery, as well as lot-to-lot consistency.

GDNF promotes survival and affects the proliferation, migration, and differentiation of a number of neuronal populations within the central and peripheral nervous systems. It plays a critical role in neuronal differentiation and survival. GDNF is also a very potent trophic factor for spinal motoneurons and central noradrenergic neurons. It most affects enteric, sympathetic, and dopamine neurons. GDNF binds to a lipid raft-resident GPI-anchored GFR α 1



receptor and recruits and activates two RET, triggering the MAPK, PI3K-Akt, and Erk pathways that contribute to promoting cell survival. GDNF-GFR α 1-RET signaling also is important for renal development and modulation of spermatogonia differentiation.

Target Details

This gene encodes a highly conserved neurotrophic factor. The recombinant form of this protein 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. The encoded protein is processed to a mature secreted form that exists as a homodimer. The mature form of the protein is a ligand for the product of the RET (rearranged during transfection) protooncogene. In addition to the transcript encoding GDNF, two additional alternative transcripts encoding distinct proteins, referred to as astrocyte-derived trophic factors, have also been described. Mutations in this gene may be associated with Hirschsprung disease.

Product Precision

Intra-assay Precision (Precision within an assay): CV%<8%

Three samples of known concentration were tested twenty times on one plate to assess.

Inter-assay Precision (Precision between assays): CV%<10%

Three samples of known concentration were tested in twenty assays to assess.

Linearity

To assess the linearity of the assay, samples were spiked with high concentrations of rat GDNF in various matrices and diluted with the Sample Diluent to produce samples with values within the dynamic range of the assay.

	Sample [↕]	Serum(n=4) [↕]
1:1 [↕]	Average % [↕]	90 [↕]
	Range % [↕]	86-93 [↕]
1:2 [↕]	Average % [↕]	100 [↕]
	Range % [↕]	97-103 [↕]
1:4 [↕]	Average % [↕]	94 [↕]
	Range % [↕]	89-96 [↕]
1:8 [↕]	Average % [↕]	98 [↕]
	Range % [↕]	93-100 [↕]

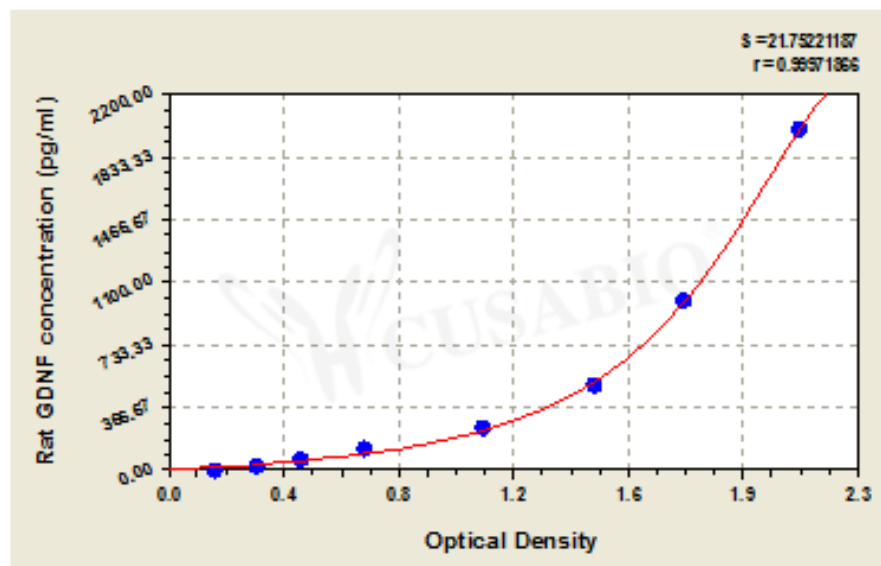
Recovery

The recovery of rat GDNF spiked to levels throughout the range of the assay in various matrices was evaluated. Samples were diluted prior to assay as directed in the Sample Preparation section.

Sample Type [↕]	Average % Recovery [↕]	Range [↕]
Serum (n=5) [↕]	93 [↕]	89-96 [↕]
EDTA plasma (n=4) [↕]	96 [↕]	92-98 [↕]

Typical

These standard curves are provided for demonstration only. A standard curve should be generated for each set of samples assayed.



pg/ml↕	OD1↕	OD2↕	Average↕	Corrected↕
2000↕	2.135 ↕	2.122 ↕	2.129 ↕	1.961 ↕
1000↕	1.752 ↕	1.734 ↕	1.743 ↕	1.575 ↕
500↕	1.424 ↕	1.458 ↕	1.441 ↕	1.273 ↕
250↕	1.080 ↕	1.056 ↕	1.068 ↕	0.900 ↕
125↕	0.686 ↕	0.656 ↕	0.671 ↕	0.503 ↕
62.5↕	0.452 ↕	0.462 ↕	0.457 ↕	0.289 ↕
31.25↕	0.316 ↕	0.301 ↕	0.309 ↕	0.141 ↕
0↕	0.170 ↕	0.166 ↕	0.168 ↕	↕

Msds

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