abcam

Product datasheet

Rat GDNF ELISA Kit ab213901

1 Abreviews 6 References 1 Image

Overview

Product name Rat GDNF ELISA Kit

Detection method Colorimetric

Precision

Intra-assay

Sample	n	Mean	SD	CV%
1	16	90pg/ml	4.32	= 4.8%
2	16	280pg/ml	22.12	= 7.9%
3	16	983pg/ml	69.79	= 7.1%

Inter-assay

Sample	n	Mean	SD	CV%
1	24	94pg/ml	5.54	= 5.9%
2	24	264pg/ml	24.55	= 9.3%
3	24	1071pg/ml	84.6	= 7.9%

Sample type Cell culture supernatant, Serum, Cell Lysate, Hep Plasma, EDTA Plasma

Assay type Sandwich (quantitative)

Sensitivity < 4 pg/ml

Range 31.2 pg/ml - 2000 pg/ml

Assay time 3h 30m

Assay duration Multiple steps standard assay

Species reactivity **Reacts with:** Rat

Product overview The Rat GDNF Enzyme-Linked Immunosorbent Assay (ELISA) kit (ab213901) is designed for the quantitative measurement of Rat GDNF in cell culture supernatants, cell lysates, serum and plasma (heparin, EDTA).

The ELISA kit is based on standard sandwich enzyme-linked immune-sorbent assay technology.

A monoclonal antibody from mouse specific for GDNF has been pre-coated onto 96-well plates. Standards and test samples are added to the wells, a biotinylated detection polyclonal antibody from goat specific for GDNF is added subsequently and then followed by washing with PBS or TBS buffer. Avidin-Biotin-Peroxidase Complex is added and unbound conjugates are washed away with PBS or TBS buffer. HRP substrate TMB is used to visualize HRP enzymatic reaction. TMB is catalyzed by HRP to produce a blue color product that changed into yellow after adding acidic stop solution. The density of yellow is proportional to the Rat GDNF amount of sample captured in plate.

Notes

Glial cell line-derived neurotrophic factor (GDNF) is a glycosylated, disulfide-bonded homodimer that is a distantly related member of the transforming growth factor-beta superfamily. GDNF, is a potent neurotrophic factor that promotes the survival of dopaminergic neurones in cultures including embryonic neuronal cultures. GDNF, in addition to its potential role in the differentiation and survival of central nervous system neurons, has profound effects on kidney organogenesis and the development of the peripheral nervous system. GDNF may have utility in the treatment of Parkinson's disease, which is marked by progressive degeneration of midbrain dopaminergic neurons. GDNF lies on the short arm of human chromosome 5, at 5p13.1-p13.3, and has the ability to promote dopamine uptake in midbrain cultures. The standard product used in this kit is recombinant rat GDNF, which is a dimmer composed of two chains with 134 amino acids.

Platform

Pre-coated microplate (12 x 8 well strips)

Properties

Storage instructions

Store at -20°C. Please refer to protocols.

Components	Identifier	1 x 96 tests	1 x 96 tests
ABC Diluent Buffer	Blue Cap	1 x 12ml	1 x 12ml
Adhesive Plate Seal		4 units	4 units
Antibody Diluent Buffer	Green Cap	1 x 12ml	1 x 12ml
Anti-rat GDNF coated Microplate (12 x 8 wells)		1 unit	1 unit
Avidin-Biotin-Peroxidase Complex (ABC)		1 x 100µl	1 x 100µl
Biotinylated anti- Rat GDNF antibody		1 x 100µl	1 x 100µl
Lyophilized recombinant Rat GDNF standard		2 vials	2 vials
Sample Diluent Buffer	Green Cap	1 x 30ml	1 x 30ml
TMB Color Developing Agent	Black Cap	1 x 10ml	1 x 10ml
TMB Stop Solution	Yellow Cap	1 x 10ml	1 x 10ml
Wash Buffer (25X)		1 x 20ml	1 x 20ml

Function

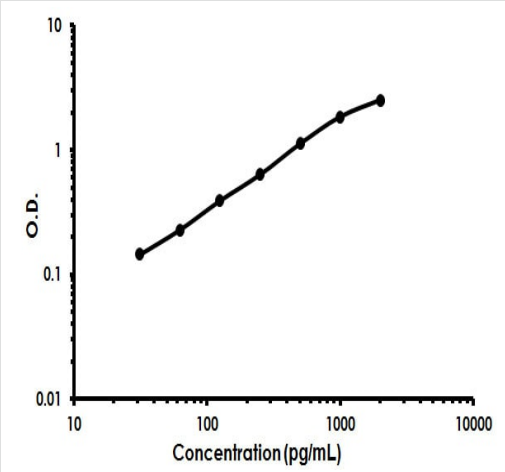
Neurotrophic factor that enhances survival and morphological differentiation of dopaminergic neurons and increases their high-affinity dopamine uptake.

Tissue specificity

In the brain, predominantly expressed in the striatum with highest levels in the caudate and lowest

	in the putamen.
Involvement in disease	Defects in GDNF may be a cause of Hirschsprung disease (HSCR) [MIM:142623]. In association with mutations of RET gene, defects in GDNF may be involved in Hirschsprung disease. This genetic disorder of neural crest development is characterized by the absence of intramural ganglion cells in the hindgut, often resulting in intestinal obstruction. Defects in GDNF are a cause of congenital central hypoventilation syndrome (CCHS) [MIM:209880]; also known as congenital failure of autonomic control or Ondine curse. CCHS is a rare disorder characterized by abnormal control of respiration in the absence of neuromuscular or lung disease, or an identifiable brain stem lesion. A deficiency in autonomic control of respiration results in inadequate or negligible ventilatory and arousal responses to hypercapnia and hypoxemia.
Sequence similarities	Belongs to the TGF-beta family. GDNF subfamily.
Cellular localization	Secreted.

Images



Rat GDNF ELISA Kit (ab213901) Standard Curve.

Rat GDNF ELISA Kit (ab213901) Standard Curve.

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery
- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit **https://www.abcam.com/abpromise** or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors