Datasheet for ABIN411276

# GDNF ELISA Kit

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## Overview

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| Quantity: | 96 tests |
| Target: | GDNF |
| Binding Specificity: | AA 78-211 |
| Reactivity: | Rat |
| Method Type: | Sandwich ELISA |
| Detection Range: | 31.2-2000 pg/mL |
| Minimum Detection Limit: | 31.2 pg/mL |
| Application: | ELISA |

## Product Details

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| Purpose: | Sandwich High Sensitivity ELISA kit for Quantitative Detection of Rat GDNF |
| Brand: | PicoKine™ |
| Sample Type: | Cell Culture Supernatant, Serum, Plasma (heparin), Plasma (EDTA) |
| Analytical Method: | Quantitative |
| Detection Method: | Colorimetric |
| Immunogen: | Expression system for standard: sf21<br>Immunogen sequence: S78-I211 |
| Specificity: | Expression system for standard: sf21<br>Immunogen sequence: S78-I211 |
| Cross-Reactivity (Details): | There is no detectable cross-reactivity with other relevant proteins. |

## Product Details

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| Sensitivity: | <4pg/mL |
| Material not included: | Microplate reader in standard size. Automated plate washer. Adjustable pipettes and pipette tips. Multichannel pipettes are recommended in the condition of large amount of samples in the detection. Clean tubes and Eppendorf tubes. Washing buffer (neutral PBS or TBS). Preparation of 0.01M TBS: Add 1.2g Tris, 8.5g Nacl |

## Target Details

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| Target: | GDNF |
| Alternative Name: | GDNF (GDNF Products) |
| Background: | Protein Function: Neurotrophic factor that enhances survival and morphological differentiation of dopaminergic neurons and increases their high-affinity dopamine uptake. .<br>Background: 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.3 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 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.<br>Synonyms: Glial cell line-derived neurotrophic factor ,Gdnf ,<br>Full Gene Name: Glial cell line-derived neurotrophic factor<br>Cellular Localisation: Secreted. |
| Gene ID: | 25453 |
| UniProt: | A7UGJ1 |
| Pathways: | RTK Signaling, Synaptic Membrane, Tube Formation, Autophagy, Smooth Muscle Cell Migration |

## Application Details

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| Application Notes: | Before using Kit, spin tubes and bring down all components to bottom of tube. Duplicate well assay was recommended for both standard and sample testing. |

## Application Details

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| Plate: | Pre-coated |
| Protocol: | rat GDNF ELISA Kit was based on standard sandwich enzyme-linked immune-sorbent assay technology. A monoclonal antibody from mouse specific for GDNF has been precoated onto 96-well plates. Standards(sf21, S78-I211) 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 was added and unbound conjugates were washed away with PBS or TBS buffer. HRP substrate TMB was used to visualize HRP enzymatic reaction. TMB was 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. |
| Assay Procedure: | Aliquot 0.1 mL per well of the 2000pg/mL, 1000pg/mL, 500pg/mL, 250pg/mL, 125pg/mL, 62.5pg/mL, 31.2pg/mL rat GDNF standard solutions into the precoated 96-well plate. Add 0.1 mL of the sample diluent buffer into the control well (Zero well). Add 0.1 mL of each properly diluted sample of rat cell culture supernates, serum or plasma(heparin, EDTA) to each empty well. See "Sample Dilution Guideline" above for details. We recommend that each rat GDNF standard solution and each sample is measured in duplicate. |
| Assay Precision: | • Sample 1: n=16, Mean(pg/ml): 155, Standard deviation: 6.98, CV(%): 4.5<br>• Sample 2: n=16, Mean(pg/ml): 624, Standard deviation: 26.21, CV(%): 4.2<br>• Sample 3: n=16, Mean(pg/ml): 1316, Standard deviation: 72.38, CV(%): 5.5,<br>• Sample 1: n=24, Mean(pg/ml): 148, Standard deviation: 10.06, CV(%): 6.8<br>• Sample 2: n=24, Mean(pg/ml): 747, Standard deviation: 59.01, CV(%): 7.9<br>• Sample 3: n=24, Mean(pg/ml): 1324, Standard deviation: 102, CV(%): 7.7 |
| Restrictions: | For Research Use only |

## Handling

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| Handling Advice: | Avoid multiple freeze-thaw cycles. |
| Storage: | -20 °C,4 °C |
| Storage Comment: | Store at 4°C for 6 months, at -20°C for 12 months. Avoid multiple freeze-thaw cycles |
| Expiry Date: | 12 months |

## Publications

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| Product cited in: | Leira, Ameijeira, Domínguez, López-Arias, Ávila-Gómez, Pérez-Mato, Sobrino, Campos, DAiuto, Leira, Blanco: "Periodontal inflammation is related to increased serum calcitonin gene-related |

peptide levels in patients with chronic migraine." in: **Journal of periodontology**, Vol. 90, Issue 10 , pp. 1088-1095, (2020) (PubMed).

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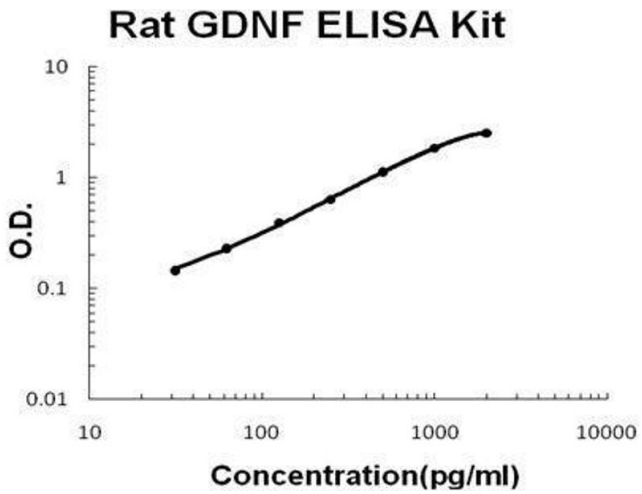
Pérez-Pereda, Toriello-Suárez, Ocejo-Vinyals, Guiral-Foz, Castillo-Obeso, Montes-Gómez, Martínez-Nieto, Iglesias, González-Quintanilla, Oterino: "Serum CGRP, VIP, and PACAP usefulness in migraine: a case-control study in chronic migraine patients in real clinical practice. " in: **Molecular biology reports**, Vol. 47, Issue 9, pp. 7125-7138, (2020) (PubMed).

Pinto-Sanchez, Hall, Ghajar, Nardelli, Bolino, Lau, Martin, Cominetti, Welsh, Rieder, Traynor, Gregory, De Palma, Pigrau, Ford, Macri, Berger, Bergonzelli, Surette, Collins, Moayyedi, Bercik: " Probiotic Bifidobacterium longum NCC3001 Reduces Depression Scores and Alters Brain Activity: A Pilot Study in Patients With Irritable Bowel Syndrome." in: **Gastroenterology**, Vol. 153, Issue 2, pp. 448-459.e8, (2017) (PubMed).

Lei, Zhu, Zhang, Duan, Lei, Huang: "Transient Receptor Potential Vanilloid Subtype 1 Inhibits Inflammation and Apoptosis via the Release of Calcitonin Gene-Related Peptide in the Heart after Myocardial Infarction." in: **Cardiology**, Vol. 134, Issue 4, pp. 436-43, (2016) (PubMed).

There are more publications referencing this product on: Product page




**ELISA**

**Image 1.** Rat GDNF PicoKine ELISA Kit standard curve