



## Rat Glial cell line-derived neurotrophic factor/GDNFtotal/ATF ELISA (2 plates)

**Catalogue No.:** BEK-2020-2P

**Description:** Try our new GDNF Rapid ELISA kit (BEK-2230-2P). Same specificity, more sensitivity and faster!

The rat GDNF Kit is a sandwich ELISA. The capture antibody is a monoclonal anti-rat GDNF antibody pre-coated onto the 96-well strip plates provided in the kit. Rat test samples and standards of known GDNF concentration are added to these wells and allowed to complex with the bound GDNF antibody. A biotinylated rat GDNF polyclonal antibody is then added. This detection antibody binds to the antigen thus completing the sandwich. After washing, an enzyme Avidin-Biotin-Peroxidase complex (ABC) is added which binds to the second antibody. The peroxidase substrate TMB is added to induce a coloured reaction product. The intensity of this coloured product is directly proportional to the concentration of GDNF present in the samples. The purpose of this kit is for quantitative detection of rat GDNF in cell culture supernatants, cell lysates, tissue homogenates, serum, and heparin or EDTA treated plasma samples only when used as directed. This kit has been configured for research use only and is not to be used in diagnostic or clinical procedures.

GDNF is a glycosylated, disulfide-bonded homodimer molecule. It was first discovered as a potent survival factor for midbrain dopaminergic neurons and was then shown to rescue these neurons in animal models of Parkinson's disease. GDNF is about 100 times more efficient survival factor for spinal motor neurons than the neurotrophins. **FUNCTION:** Neurotrophic factor that enhances survival and morphological differentiation of dopaminergic neurons and increases their high-affinity dopamine uptake. **SUBUNIT:** Homodimer; disulfide-linked. **SUBCELLULAR LOCATION:** Secreted protein. **ALTERNATIVE PRODUCTS:** 2 named isoforms produced by alternative splicing. **SIMILARITY:** Belongs to the TGF-beta family. GDNF subfamily.

**Batch No.:** See product labels

**Antigen:** The standard and immunogen used in this kit is recombinant mature (aa78-211) rat GDNF produced in and purified from an insect cell expression system. This assay will not distinguish between unprocessed proGDNF and mature GDNF as the antibodies will detect both forms when present.

**Other Names:** Glial cell line-derived neurotrophic factor; Astrocyte-derived trophic factor 1; ATF-1

**Accession:** Q07731 GDNF\_RAT;

**Purity:** The standard in this kit was expressed in and purified from an Sf21 baculovirus system.

**Applications:**

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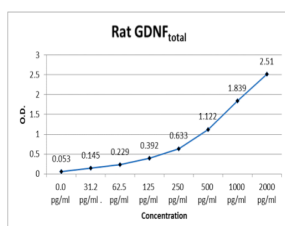
FOR RESEARCH USE ONLY

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- ELISA**
- Specificity:** Rat GDNF, proGDNF
- Cross-reactivity:** There is no detectable cross-reactivity with other relevant proteins. Cross reactivity to human and mouse GDNF is likely because of sequence homology.
- Storage:** Store at 4°C
- Specific References:** Simões L et al. (2017) "Prevention of memory impairment and neurotrophic factors increased by lithium in Wistar rats submitted to pneumococcal meningitis model." *Mediators Inflamm. Sep*; [Epub ahead of print]
- Valvassori SS et al. (2017) "The different effects of lithium and tamoxifen on memory formation and the levels of neurotrophic factors in the brain of male and female rats." *Brain Res Bull. Sep*;134:228-35
- Varela RB et al. (2015) "Sodium butyrate and mood stabilizers block ouabain-induced hyperlocomotion and increase BDNF, NGF and GDNF levels in brain of Wistar rats." *J Psychiatr Res. Feb*;61:114-121.
- Barichello T et al. (2015) "Sodium Butyrate Prevents Memory Impairment by Re-establishing BDNF and GDNF Expression in Experimental Pneumococcal Meningitis." *Mol Neurobiol. Aug*;52(1):734-40.
- Leffa DD et al. (2015) "Effects of palatable cafeteria diet on cognitive and noncognitive behaviors and brain neurotrophins' levels in mice." *Metab Brain Dis. Aug*;30(4):1073-82.
- Kit components:** The ELISA kit box contains 2 x 96 pre-coated strip plates, protein standards, detection reagents, substrate buffer and precise instructions.
- Range:** 31.2 pg/ml - 2,000 pg/ml
- Sensitivity:** < 4 pg/ml
- Kit protocol:** Please refer to our online product listing for current protocol/MSDS versions.

IX: Typical Standard Curve (for reference only, not to be used for actual data)

Concentration pg/ml	0.0	31.2	62.5	125	250	500	1000	2000
O.D.	0.053	0.145	0.229	0.392	0.633	1.122	1.839	2.510



This standard curve is for demonstration purposes only. A standard curve should be generated for each assay.

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