

## GDNF Rapid ELISA Kit: Human (2 plates)

**Catalogue No.:** BEK-2222-2P

**Description:** The Biosensis GDNF Rapid™ enzyme-linked immunosorbent assay (ELISA) Kit is a sandwich ELISA that allows the quantification of GDNF in less than 4 hours in cell culture supernatants, cell lysates, and guinea pig serum only if used as directed. Please refer to the kit protocol for specific use instructions for each substrate application.

This ELISA kit consists of a pre-coated anti-GDNF capture antibody, a biotinylated anti-GDNF detection antibody and horseradish peroxidase (HRP)-conjugated streptavidin. The addition of a substrate (3,3',5,5'-tetramethylbenzidine, TMB) yields a colored reaction product which is directly proportional to the concentration of GDNF present in samples and protein standards. A GDNF positive control (QC sample) is provided to assure consistent assay performance.

This GDNF ELISA kit employs a recombinant human GDNF standard obtained from the National Institute for Biological Standards and Control (NIBSC) and is therefore designed to accurately measure the human form of GDNF. Note that the antibodies used in this kit cross-react with guinea pig, rat and mouse GDNF.

Guinea pig GDNF has been quantified in serum using the Human GDNF Rapid™ ELISA kit, since guinea pig GDNF protein shares closest amino acid sequence homology with human GDNF. Protein levels can be expressed as human GDNF equivalents?.

This kit has not been tested for other applications. It has been configured for research use only and is not to be used in diagnostic or clinical procedures.

**Related products:** For accurate quantification of GDNF in mouse and rat samples, we recommend BEK-2229 and BEK-2230, respectively! While all GDNF Rapid™ ELISA kits use the same capture and detection antibodies, the protein standards differ to reflect their use in either human or rodent samples. Note that due to a high degree of sequence homology, GDNF from other species may be quantified.

**Batch No.:** Refer to the product label.

**Antigen:** 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. **DISEASE:** Defects in GDNF may be a cause of Hirschsprung disease (HSCR). 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. **DISEASE:** Defects in GDNF are a cause of congenital central

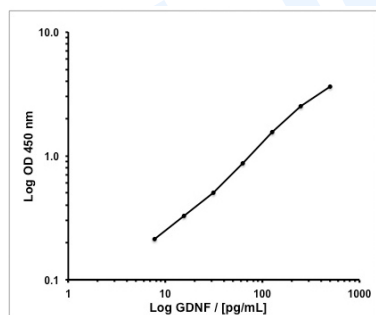
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hypoventilation syndrome (CCHS); also known as congenital failure of autonomic control or Ondine curse. CCHS is a rare disorder characterized by abnormal control of respiration in the absence of neuromuscular or lung disease, or an identifiable brain stem lesion. A deficiency in autonomic control of respiration results in inadequate or negligible ventilatory and arousal responses to hypercapnia and hypoxemia. SIMILARITY: Belongs to the TGF-beta family. GDNF subfamily.

- Other Names:** Glial cell line-derived neurotrophic factor; Astrocyte-derived trophic factor; ATF; GDNF
- Accession:** GDNF\_HUMAN
- Specificity:** Human. The antibodies used in this kit detect guinea pig, mouse and rat GDNF.
- Cross-reactivity:** No cross-reactivity was observed for the following proteins tested at 25 ng/mL in assay buffer: brain-derived neurotrophic factor (rhBDNF), nerve growth factor (rhNGF), neurotrophin-3 (rhNT-3), rhNT-4/5, vascular endothelial growth factor (rhVEGF), recombinant human Neurturin, Artemin and Persephin.
- Storage:** Store at 2-8C.
- Expiry Date:** 12 months from purchase.
- Specific References:** Widbiller M et al. (2019) Neurotrophic Proteins in Dentin and Their Effect on Trigeminal Sensory Neurons. J Endod. [Epub ahead of print]. Application: Human tooth homogenate.
- Kit components:** The ELISA kit box contains 2 x 96-well pre-coated strip plates, protein standards, QC sample, detection reagents, wash and sample buffers, substrate buffer and detailed protocols.
- Range:** 7.8 - 500 pg/mL
- Sensitivity:** Typical limit of detection (LOD) for rhGDNF is
- Kit protocol:** Please refer to our online product listing for current protocol/MSDS versions.
- MSDS:** Please refer to our online product listing for current protocol/MSDS versions.



This standard curve generated in our laboratories is for demonstration purposes only, but can be used as a guide to expected performance. A standard curve should be generated for each assay.

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