ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Glial cell line-derived Neurotrophic Factor (GDNF)

Cat. # GDNF11-R-2	Recombinant purified Human GDNF	**SIZE**: 2 ug
Cat. # GDNF11-R-10	Recombinant purified Human GDNF	**SIZE**: 10 ug

GDNF is a disulfide-linked homodimeric neurotrophic factor structurally related to Artemin, Neurturin and Persephin. These proteins belong to the cysteine-knot superfamily of growth factors that assume stable dimeric protein structures. GDNF signals through a multicomponent receptor system, composed of a RET and one of the four GFRalpha (alpha1-alpha4) receptors. GDNF specifically promotes dopamine uptake and survival and morphological differentiation of midbrain neurons. Using Parkinson's disease mouse model, GDNF has been shown to improve conditions such as bradykinesia, rigidity, and postural instability. The functional human GDNF ligand is a disulfide-linked homodimer, of two 15 kDa polypeptide chains called monomers. Each monomer contains seven conserved cysteine residues, one of which (Cys 101) is used for inter-chain disulfide bridging and the others are involved in intramolecular ring formation known as the cysteine knot configuration.

Source of antigen :

Human GDNF was expressed in E. coli and purified to >95%. Endotoxin level is less than 0.1 ng per µg (1EU/µg). Biological activity was determined by the dose-dependent dopamine uptake by rat mesencephalic cultures was found to be in the range of 5-10 ng/ml.

Recombinant purified GDNF is supplied in powder from in 2 or 10 ug sizes. Store stock vial at –20oC. Reconstitute the stock at 100 ug/ml in water or PBS, pH 7.5. Due to low concentration, it is recommended to use a buffer containing 0.1% BSA. Reconstituted protein should be used immediately or stored frozen at –20oC or below for up to 1-3 months. DO not freeze and thaw.

GDNF is not necessarily sterile. Reconstituted protein can be sterile filtered if necessary.

Sequence of human GDNF

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MSPDKQMAVL   PRRERNRQAA   AANPENSRGK
GRRGQRGKNR   GCVLTAIHLN   VTDLGLGYET
KEELIFRYCS   GSCDAAETTY   DKILKNLSRN
RRLVSDKVGQ   ACCRPIAFDD   DLSFLDDNLV
YHILRKHSAK    RCGCI
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Storage

Short-term: unopened, undiluted vials for less than a week at 4oC.

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.

Shipping: 4oC for solutions and room temp for powder.

General References:

Lin LF (1993) Science 260, 1130-1132; Schaar DG (1994) Exp. Neurol. 130, 387-393; Strausberg RL (2002) PNAS 99, 16889-16903; Baecker PA (1999) Brain Res. Mol. Brain Res. 69, 209-222; Hanju M (1996) Biochemistry 35, 16799-16805

*This product is for In vitro research use only.

Related material available from ADI

Ant-NGF, NT-3, NT-4, BDNF, Trk receptors, EGF, FGF and other growth factors

GDNF11-R-2-10 71217J

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