

GDNF

Glial-Derived Neurotrophic Factor

human, recombinant, *E. coli*

| Cat. No. | Amount |
|----------|--------|
| PR-422 | 10 µg |

For *in vitro* use only
Quality guaranteed for 12 months
Store at -20°C

Avoid freeze / thaw cycles

Form

Lyophilized. GDNF was lyophilized after dialysis against 10 mM sodium citrate and 150 mM NaCl.

Solubility

It is recommended to reconstitute the lyophilized GDNF in sterile bidest H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Activity

ED₅₀: < 5-10 ng/ml, calculated by the dose-dependent dopamine uptake in rat mesencephalic cultures.

Endotoxin

Less than 0.1 ng/µg (IEU/µg) of GDNF.

Molecular Weight

30 kDa

Purity

≥ 95% by SDS-PAGE and RP-HPLC

Description

This factor was found initially in conditioned medium of the rat B49 glial cell line. GDNF is a disulfide-bonded homodimeric glycosylated protein of 134 amino acids. The proteins contain seven conserved cysteine residues in the same relative spacing found in all members of the TGF-β superfamily of proteins. The human GDNF gene has been mapped to chromosome 5p13.1-p13.3. Related factors are Neurturin, Persephin, and Artemin (cat.# PR-404). Collectively they are being referred to as GDNF family ligands.

Recombinant human Glial-Derived Neurotrophic Factor (GDNF) produced in *E. coli* is a homodimer, non-glycosylated, polypeptide chain containing 2 x 135 amino acids and having a total molecular mass of 30.36 kDa. Recombinant GDNF is purified by proprietary chromatographic techniques.

Selected References:

- Zhao *et al.* (2004) NGF, BDNF, NT-3, and GDNF mRNA expression in rat skeletal muscle following denervation and sensory protection. *J. Neurotrauma* **21**:1468.
- Hashimoto *et al.* (2005) Inflammation-induced GDNF improves locomotor function after spinal cord injury. *Neuroreport* **16**:99.
- Price *et al.* (2005) Treatment of trigeminal ganglion neurons *in vitro* with NGF, GDNF and BDNF: effects on neuronal survival, neurochemical properties and TRPV1-mediated neuropeptide secretion. *BMC Neurosci.* **6**:4.
- Molliver *et al.* (2005) Overexpression of NGF or GDNF alters transcriptional plasticity evoked by inflammation. *Pain* **113**(3):277.
- Yu *et al.* (2004) Effects of hyperbaric oxygen on GDNF expression and apoptosis in spinal cord injury. *Neuroreport* **15**:2369.
- Nakashima *et al.* (2004) Suppression of GDNF production by MPSS treatment following spinal cord injury in the rat. *Neuroreport* **15**:2337.