

GH-20K, pituitary Pituitary Growth Hormone-20K human, recombinant, *E. coli*

Cat. No.	Amount
PR-427	100 µg

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

Avoid freeze / thaw cycles

Form

Lyophilized. Pituitary Growth Hormone protein was lyophilized from a 1 mg/ml solution with 0.0045 mM NaHCO₃ and pH 10.0.

Solubility

It is recommended to reconstitute and dilute the lyophilized Placental-GH in 0.4% NaHCO₃ adjusted to pH 10.0, which can then be further diluted to other aqueous solutions. It is recommended when diluting to below 10 µg/ml that the dilution solution will contain carrier protein (BSA or other) to avoid nonspecific absorption of the hGH to plastic tubes.

Activity

3 U/mg

Endotoxin

Less than 0.1 ng/µg (IEU/µg) of GH.

Molecular Weight

20 kDa

Purity

≥ 95% by SDS-PAGE and RP-HPLC

Description

The human GH (GH-20K), which is produced in the pituitary by alternative splicing of GH mRNA comprises approximately 6% of all GH in serum and was elevated in patients with active acromegaly.

Pituitary growth hormone (GH) plays diverse roles in the promotion of cell growth and metabolism. GH has been shown to influence the development of the immune organ and the function of immune cells. The binding of GH to its receptor causes dimerization of two growth hormone receptors (GHR), which, in turn, initiates the signal transduction in the cell.

Recombinant Human GH-20K produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 177 amino acids and having a molecular mass of 20.3 kDa. GH-20K is purified by proprietary chromatographic techniques.

Selected References:

- Ryu *et al.* (2000) Regulation of neutrophil adhesion by pituitary growth hormone accompanies tyrosine phosphorylation of Jak2, p125FAK, and paxillin. *J. Immunol.* **165**:2116.
- Murakami *et al.* (2004) Serum levels of 20 kilodalton human growth hormone (20K-hGH) in patients with acromegaly before and after treatment with octreotide and transsphenoidal surgery. *Endocr. J.* **51**:343.
- Hayakawa *et al.* (2004) Metabolic effects of 20-kilodalton human growth hormone (20K-hGH) for adults with growth hormone deficiency: results of an exploratory uncontrolled multicenter clinical trial of 20K-hGH. *J. Clin. Endocrinol. Metab.* **89**:1562.
- Takahashi *et al.* (2001) Diabetogenic activity of 20 kDa human growth hormone (20K-hGH) and 22K-hGH in rats. *Growth Horm. IGF Res.* **11**:110.
- Asada *et al.* (2000) Effects of 22K or 20K human growth hormone on lipolysis, leptin production in adipocytes in the presence and absence of human growth hormone binding protein. *Horm. Res.* **54**:203.
- Murakami *et al.* (2000) Twenty-kilodalton human growth hormone (20K hGH) secretion from growth hormone-secreting pituitary adenoma cells *in vitro*. *Endocr. J.* **47**:563.
- Minagawa *et al.* (2000) Effects of octreotide infusion, surgery and estrogen on suppression of height increase and 20K growth hormone ratio in a girl with gigantism due to a growth hormonesecreting macroadenoma. *Horm. Res.* **53**:157.