

Product Information

HGH active, human recombinant, expressed in *Nicotiana benthamiana*

Catalog Number **H4042**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

Product Description

GH is a member of the somatotropin/prolactin family of hormones, which play an important role in growth control. The gene, along with four other related genes, is located at the growth hormone locus on chromosome 17 where they are interspersed in the same transcriptional orientation; an arrangement which is thought to have evolved by a series of gene duplications. The five genes share a remarkably high degree of sequence identity. Alternative splicing generates additional isoforms of each of the five growth hormones, leading to further diversity and potential for specialization. This particular family member is expressed in the pituitary but not in placental tissue, as is the case for the other four genes in the growth hormone locus. Mutations in or deletions of the gene lead to growth hormone deficiency and short stature.

Recombinant human Growth Hormone is lyophilized from 0.05 M PBS buffer, pH 7.5. It is produced by transient expression of GH in non-transgenic plants. Recombinant human GH contains a 6-His-tag at the N-terminal end and is purified by sequential chromatography (FPLC).

This product is Xeno-free, containing no animal-derived components nor impurities.

Molecular mass: 22.9 kDa
(composed of 205 amino residues)

Sequence:
HHHHHHFPTIPLSRPFDNAMLRAHRLHQLAFDITYQEF
EEAYIPKEQKYSFLQNPQTSLCFSESIPSPNREETQ
QKSNLELLRISLLLIQSWLEPVQFLRSVFANSLVYGAS
DSNVYDLLKDLEEGIQTLMGRLEDGSPRTGQIFKQTY
SKFDTNSHNDDALLKNYGLLYCFRKDMDKVETFLRIV
QCRSVEGSCGFAG

Purity: >97% (SDS-PAGE)

ED₅₀: $\leq 0.1\text{ ng/mL}$

Biological activity: The biological activity of human Growth Hormone is measured by cell proliferation using Nb2-11 cells.

Endotoxin: $< 0.04\text{ EU per } 1\text{ }\mu\text{g}$ of the protein
(LAL method)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

The lyophilized protein should be reconstituted in water to a concentration of 50 ng/ μL . It is recommended to add a carrier protein (0.1% HSA or BSA). Due to the protein nature, dimers and multimers may be observed.

Storage/Stability

The product ships at ambient temperature. Upon receiving, store it immediately at $-20\text{ }^{\circ}\text{C}$ or below.

Upon reconstitution, aliquot and store under sterile conditions at $-20\text{ }^{\circ}\text{C}$ or below. Avoid repeated freeze/thaw cycles.

References

1. Chen, H.C. et al., J. Biol. Chem., **245**, 3402-3406 (1970).
2. Goffin, V. et al., Endocrine Rev., **17**, 385-410 (1996).
3. Le Roith, D. et al., Endocrine Rev., **22**, 53-74 (2001).
4. Roskam, W. et al., Nucleic Acids Res., **7**, 305-320 (1979).
5. Welniak, L.A. et al., J. Leukoc. Biol., **71**, 381-387 (2002).

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