

# Recombinant Human Growth Hormone

#R00469

Size: 100 µg/500 µg/1 mg

## Stability & Storage

Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.



**Warning:** This product is intended for scientific research only. It is not to be used for medical or diagnostic procedures in humans or animals, nor as a food, cosmetic, or household product.

## Background

Growth hormone (GH), also known as somatotropin, is a member of a family of growth factors that includes prolactin, placental lactogens, proliferins, and somatolactin. It is a peptide hormone that stimulates growth, cell reproduction and regeneration in humans and other animals. Growth hormone is a 191-amino acid, single-chain polypeptide that is synthesized, stored, and secreted by somatotropic cells within the lateral wings of the anterior pituitary gland. The pulsatile release of GH into circulation is regulated by the concerted actions of the hypothalamic hormones-GH-releasing hormone (GHRH) and somatostatin (SST) - as well as by signals from the periphery - ghrelin and leptin. The human GH cDNA encodes a 217 amino acid (aa) residue precursor protein with a 26 aa putative signal peptide. By alternative splicing, at least four isoforms of GH have been identified.

## AA Sequence

FPTIPLSRLFDNAMLRAHRLHQLAFDITYQEFEEAYIPK  
EQKYSFLQNPQTSLCFSESIPTPSNREETQQKSNLEL  
LRISLLLIQSWLEPVQFLRSVFANSLVYGASDSNVYDL  
LKDLEEGIQTLMGRLDGSPTGQIFKQTYSKFDTNS  
HNDDALLKNYGLLYCFRKDMDKVETFLRIVQCRSVE  
GSCGF

## Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/ml. Stock solutions should be apportioned into working aliquots and stored at ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.

## Product Specification

|                            |                                                                                                                                 |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| <b>Synonyms</b>            | GH1, GH, GHN, GH-N, hGH-N,Pituitary Growth Hormone, Growth Hormone 1, Somatotropin.                                             |
| <b>Accession</b>           | P01241                                                                                                                          |
| <b>GeneID</b>              | 2688                                                                                                                            |
| <b>Species</b>             | Human                                                                                                                           |
| <b>Source</b>              | Escherichia coli.                                                                                                               |
| <b>Molecular Weight</b>    | Approximately 22 kDa, a single non-glycosylated polypeptide chain containing 191 amino acids                                    |
| <b>Purity</b>              | > 98 % by SDS-PAGE and HPLC analyses.                                                                                           |
| <b>Biological Activity</b> | Fully biologically active when compared to standard. The ED <sub>50</sub> as determined by a cell proliferation assay using rat |

|                            |                                                                                                                  |
|----------------------------|------------------------------------------------------------------------------------------------------------------|
|                            | Nb2-11 lymphoma cells is less than 0.1 ng/ml, corresponding to a specific activity of $> 1.0 \times 10^7$ IU/mg. |
| <b>Physical Appearance</b> | Sterile Filtered White lyophilized (freeze-dried) powder.                                                        |
| <b>Formulation</b>         | Lyophilized from a 0.2 $\mu$ m filtered concentrated solution with 20mM PB, pH 7.0, with 3% Mannitol.            |
| <b>Endotoxin</b>           | Less than 1 EU/ $\mu$ g of rHuGH as determined by LAL method.                                                    |