Growth Hormone, human recombinant (rHuGH)

Catalog No: 57272
Lot No: XXXXX
Source: *E. coli*
Synonyms: GH1, GH, GHN, GH-N, hGH-N,Pituitary growth hormone, Growth hormone 1, Somatotropin

Background

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.

Description

GH human recombinant produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 191 amino acids and having a molecular mass of 22 kDa. Growth Hormone is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

Formulation

GH was lyophilized from a 0.2 µm filtered concentrated solution with 20 mM PB, pH 7.0 and 3% Mannitol.

Solubility

It is recommended to reconstitute the lyophilized HGH in sterile 18 MΩ-cm H_2O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized GH, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution HGH should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity

Greater than 98.0% as determined by (a) Analysis by RP-HPLC, (b) Analysis by SDS-PAGE.

Amino Acid Sequence

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FPTIPLSRLF DNAMLRAHRL HQLAFDTYQE FEEAYIPKEQ KYSFLQNPQT SLCFSESIPT PSNREETQQK SNLELLRISL
LLIQSWLEPV QFLRSVFANS LVYGASDSNV YDLLKDLEEG IQTLMGRLED GSPRTGQIFK QTYSKFDTNS HNDDALLKNY
GLLYCFRKDM DKVETFLRIV QCRSVEGSCG F
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Activity

The ED50 was determined by the proliferation assay of rat lymphoma NB2-11 cells and was found to be less than 0.1 ng/ml, corrsponding to a specific activity of >1.0 x 10^7 IU/mg.

Usage

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