



Growth Hormone, His Tag, tobacco, human recombinant (rHuGH-His)

Catalog No: 97472
Lot No: XXXXX
Source: *Nicotiana benthamiana*
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 *Nicotiana benthamiana* is a single chain containing 205 amino acids and a 6-His Tag at the N-terminus having the total molecular mass of 22.9 kDa.

Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

Formulation

Lyophilized from 1 mg/ml solution in 0.05 M PBS buffer at pH 7.5.

Solubility

It is recommended to reconstitute the lyophilized GH in sterile 18 MΩ-cm H₂O 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 GH 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 97.0% as determined by Analysis by SDS-PAGE.

Amino Acid Sequence

HHHHHHFPTI PLSRPFDNAM LRAHRLHQLA FDTYQEFEEA YIPKEQKYSF LQNPQTSLCF SESIPTPSNR EETQQKSNLE
LLRISLLLIQ SWLEPVQFLR SVFANSLVYG ASDSNVYDLL KDLEEGIQTL MGRLEDGSPR TGQIFKQYYS KFDNTNSHND
ALLKNYGLLY CFRKDMKVE TFLRIVQCRS VEGSCGFAG

Activity

The biological activity of human Growth Hormone is measured by cell proliferation using Nb2-11 cells. ED₅₀ <0.04 - 0.1 ng/ml.

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