ADVANCED TARGETING SYSTEMS

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Growth Hormone Human Recombinant
GROWTH FACTOR

Catalog Number: PRP-202
Quantity: 100 micrograms, 500 micrograms, 1 milligram
Format: Sterile-filtered white lyophilized (freeze-dried) powder
Host: *E. coli*

Background:
Growth hormone (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.

Specificity and Preparation:
Growth Hormone (GH) Human Recombinant produced in *E. coli* is a single, non-glycosylated, polypeptide chain containing 192 amino acids and having a molecular mass of 22260 Daltons. The GH is purified by proprietary chromatographic techniques. The GH (1 mg/ml) was lyophilized after extensive dialyses against 8 mg mannitol and 0.34 mg sodium phosphate buffer (0.02 mg sodium phosphate monobasic & 0.32 mg sodium phosphate dibasic). Purity is greater than 98.0% as determined by RP-HPLC and SDS-PAGE. The sequence of the first five N-terminal amino acids was determined and was found to be Met-Phe-Pro-Thr-Ile. The biological activity is 3 units/mg. Protein quantitation was carried out by two independent methods: 1) UV spectroscopy at 280 nm using the absorbency value of 0.72 as the extinction coefficient for a 0.1% (1 mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics). 2) Analysis by RP-HPLC, using a calibrated solution of GH as a Reference Standard.

Usage and Storage:
It is recommended to reconstitute the lyophilized material in sterile 18 MΩ-cm H_2O not less than 100 μg/ml, which can then be further diluted to other aqueous solutions.
Lyophilized material although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution, the material 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). Avoid repeated freezing and thawing. Gently spin down material before use; 5-10 seconds in a microfuge should be adequate.

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