

Recombinant Ovine Growth Hormone, Antagonist

Cat. No. GH-360 Lot. No. (See product label)

SPECIFICATION

Product Overview	Recombinant Ovine Somatotropin Antagonist G119R produced in <i>E. Coli</i> is a single, non-glycosylated polypeptide chain containing 191 amino acids and having a molecular mass of 22 kDa. Recombinant Ovine Somatotropin Antagonist is purified by proprietary chromatographic techniques.
Species	Ovine
Source	E.coli
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.
Amino Acid Sequence	The sequence of the first five N-terminal amino acids was determined and was found to be Ala-Thr-Phe-Pro-Ala.

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Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.
Purity	Greater than 98.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.
Formulation	The protein was lyophilized from a concentrated (1mg/ml) solution with 0.0045 mM NaHCO ₃ .
Solubility	It is recommended to reconstitute the lyophilized GH G119R in 0.4% NaHCO ₃ or water adjusted to pH 9, not less than 100 µg/ml, which can then be further diluted to other aqueous solutions, preferably in a presence of a carrier protein such as BSA or similar.
Specific Activity	GH G119R acts as antagonist using an in vitro bioassay in PDF-P1 3B9 cells stably transfected with rabbit GH receptors. It is capable of forming a 1:1 complex with the recombinant ovine growth hormone receptor extracellular domain (ECD) and binds to this ECD with affinity similar the the wild type oGH.
Protein Content	Protein quantitation was carried out by: UV spectroscopy at 280 nm using the absorbency value of 0.66 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).
Stability	Lyophilized GH G119R although stable at room temperature for at least two weeks, should be stored desiccated below -18°C. Upon reconstitution and filter sterilization GH can be stored at 4°C, pH 9 for up to 4 weeks. For long term storage and more diluted solutions it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

GENE INFORMATION

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Gene Name	GH growth hormone [Ovis aries]
Synonyms	GH; growth hormone; GH1; somatotropin
Gene ID	443329
mRNA Refseq	NM_001009315
Protein Refseq	NP_001009315
UniProt ID	P67930

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