

Recombinant Chicken Growth Hormone Mutant G119R

Cat. No. GH1-144C **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Chicken Somatotropin Antagonist mutein G119R produced in E.Coli is a single, non-glycosylated polypeptide chain containing 191 amino acids with an additional Ala at the N-terminus and having a molecular mass of 22.3 kDa. The Chicken Growth-Hormone Antagonist Recombinant is purified by proprietary chromatographic techniques.
Species	Chicken
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.
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.
Physical Appearance	Sterile Filtered White lyophilized (freeze-dried) powder.

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Formulation	The protein was lyophilized from a concentrated (1mg/ml) solution with 0.3% NaHCO ₃ pH-8.
Biological Activity	Recombinant Chicken Growth Hormone G119R mutant did not bind to ovine GHR-ECD and was devoid of any biological activity in FDC-P1 3B9 cells. However, in binding experiments that were carried out using chicken liver membranes, both ovine GH and chicken GH showed similar IC ₅₀ values in competition with ¹²⁵ I-ovine GH, while the IC ₅₀ of G119R mutein was 10-fold higher. These results emphasize the importance of species specificity and indicate the possibility of antagonistic activity of chGH G119R in homologous system.
Protein Content	Protein quantitation was carried out by: UV spectroscopy at 280 nm using the absorbency value of 0.8 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).
Solubility	It is recommended to reconstitute the lyophilized Growth-Hormone Chicken antagonist in 0.4% NaHCO ₃ or water adjusted to pH 8-9, not less than 100g/ml, which can then be further diluted to other aqueous solutions, preferably in a presence of a carrier protein such as BSA or similar.
Purity	Greater than 98.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.
Stability	Lyophilized Growth-Hormone Chicken antagonist 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

Gene Name	GH1 growth hormone 1 [Gallus gallus]
Synonyms	GH1; growth hormone 1; somatotropin; neural retina growth hormone
Gene ID	378781
mRNA Refseq	NM_204359
Protein Refseq	NP_989690
UniProt ID	P08998
Chromosome Location	27
Pathway	Cytokine-cytokine receptor interaction; Jak-STAT signaling pathway; Neuroactive ligand-receptor interaction
Function	growth hormone receptor binding; hormone activity

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