

## Recombinant Human Glucagon (7-36)

Cat. No. GCG-89H Lot. No. (See product label)

### SPECIFICATION

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| Product Overview    | Recombinant Human Glucagon Like Peptide-1 produced in <i>E. Coli</i> is a single, non-glycosylated, polypeptide chain containing 30 amino acids and having a molecular mass of 3298.7 Dalton. The GLP-1 is purified by proprietary chromatographic techniques.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Species             | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Source              | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Description         | Glucagon-like peptide-1 (GLP-1) is derived from the transcription product of the proglucagon gene. The major source of GLP-1 in the body is the intestinal L cell that secretes GLP-1 as a gut hormone. The biologically active forms of GLP-1 are: GLP-1-(7-37) and GLP-1-(7-36)NH <sub>2</sub> . GLP-1 secretion by L cells is dependent on the presence of nutrients in the lumen of the small intestine. The secretagogues (agents that causes or stimulates secretion) of this hormone include major nutrients like carbohydrate, protein and lipid. Once in the circulation, GLP-1 has a half life of less than 2 minutes, due to rapid degradation by the enzyme dipeptidyl peptidase-4. GLP-1 possesses several physiological properties that make it a subject of intensive investigation as a potential treatment of diabetes mellitus. |
| Physical Appearance | Sterile Filtered White lyophilized (freeze-dried) powder.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Formulation         | The protein (1 mg/ml) was lyophilized after extensive dialyses against 0.1 mg sodium phosphate monobasic & 1.6mg sodium phosphate dibasic.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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|----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Solubility</b>          | It is recommended to reconstitute the lyophilized Glucagon Like Peptide-1 in sterile 18MO-cm H <sub>2</sub> O not less than 100g/ml, which can then be further diluted to other aqueous solutions.                                                                                                                                                    |
| <b>Amino Acid Sequence</b> | The sequence of the first five N-terminal amino acids was determined and was found to be His-Ala-Glu-Gly-Thr.                                                                                                                                                                                                                                         |
| <b>Biological Activity</b> | Regulates Glucose levels rapidly; Reduces Insulin resistance; Reduces Glucagon; Reduces HbA1c; Stimulates beta cell growth which stimulates insulin production                                                                                                                                                                                        |
| <b>Purity</b>              | Greater than 95.0% as determined by: (a) Analysis by RP-HPLC. (b) Analysis by SDS-PAGE.                                                                                                                                                                                                                                                               |
| <b>Stability</b>           | Lyophilized Glucagon Like Peptide-1 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution GLP-1 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 avoid freeze-thaw cycles. |

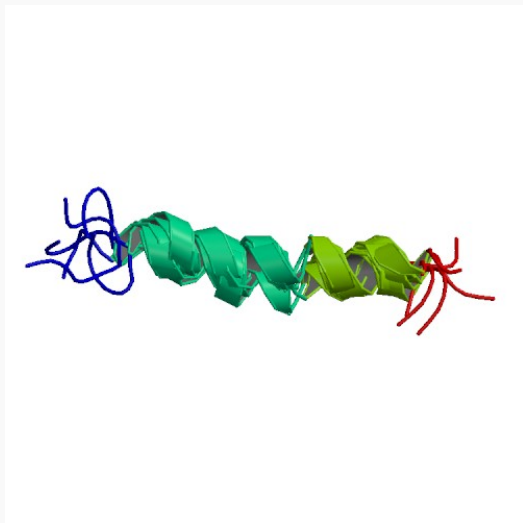
## GENE INFORMATION

|                       |                                                                                                                  |
|-----------------------|------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>      | GCG glucagon [ Homo sapiens ]                                                                                    |
| <b>Synonyms</b>       | GCG; glucagon; GLP1; GLP2; GRPP; glucagon-like peptide 1; glucagon-like peptide 2; glicentin-related polypeptide |
| <b>Gene ID</b>        | 2641                                                                                                             |
| <b>mRNA Refseq</b>    | NM_002054                                                                                                        |
| <b>Protein Refseq</b> | NP_002045                                                                                                        |

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|-------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>MIM</b>                          | 138030                                                                                                          |
| <b>UniProt ID</b>                   | P01275                                                                                                          |
| <b>Chromosome Location</b>          | 2q36-q37                                                                                                        |
| <b>Pathway</b>                      | Neuroactive ligand-receptor interaction; Diabetes pathways; Integration of energy metabolism; Signaling by GPCR |
| <b>Function</b>                     | hormone activity                                                                                                |
| <b>PDB rendering based on 1d0r.</b> |                              |