

# Recombinant Human Long Arg3 Insulin-like Growth Factor-I

**Cat. No.** IGF-08H    **Lot. No.** (See product label)

## SPECIFICATION

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
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| <b>Product Overview</b>  | Recombinant Human Long-R <sup>3</sup> -IGF-I produced in <i>E. coli</i> is a single, non-glycosylated, polypeptide chain containing 83 amino acids and having a molecular mass of 9.111 kDa.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Species</b>           | Human                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Source</b>            | E.coli                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Description</b>       | Human Long Arg <sup>3</sup> Insulin-like Growth Factor-I (Long-R <sup>3</sup> -IGF-I) is an 83 amino acid analog of human IGF-I comprising the complete human IGF-I sequence with the substitution of an Arg for the Glu at position 3 (hence R <sup>3</sup> ), and a 13 amino acid extension peptide at the N-terminus. Scientists have engineered this analog with the express purpose of increasing biological activity. Human Long-R <sup>3</sup> -IGF-I is significantly more potent than human IGF-I in vitro. The enhanced potency is due to the markedly decreased binding of human Long-R <sup>3</sup> -IGF-I to IGF binding proteins which normally inhibit the biological actions of IGFs. |
| <b>Purity</b>            | >95% by SDS-PAGE and RP-HPLC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Formulation</b>       | Lyophilized after extensive dialysis against acetic acid buffer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Specific Activity</b> | The ED <sub>50</sub> , calculated by the dose-dependant proliferation of murine BALB/C 3T3 cells is less than 1.0 ng/ml, corresponding to a specific activity of 1.0 x 10 <sup>6</sup> IU/mg. For most in-vitro applications, Long-R <sup>3</sup> -IGF-I exerts its biological activity in the                                                                                                                                                                                                                                                                                                                                                                                                        |

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|                       | concentration range of 0.2-20 ng/ml.                                                                                                                                                                                                                                                                                                                                                       |
| <b>Endotoxin</b>      | Less than 0.1ng/g (1IEU/g) of Long-R <sup>3</sup> -IGF-I.                                                                                                                                                                                                                                                                                                                                  |
| <b>Reconstitution</b> | It is recommended to reconstitute the lyophilized Long-R <sup>3</sup> -IGF-I in 500mM acetic acid not less than 100g/ml, which can then be further diluted to other aqueous solutions.                                                                                                                                                                                                     |
| <b>Storage</b>        | Lyophilized Long-R <sup>3</sup> -IGF-I although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution Long-R <sup>3</sup> -IGF-I 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). Aliquot to avoid repeated freeze-thaw cycles. |

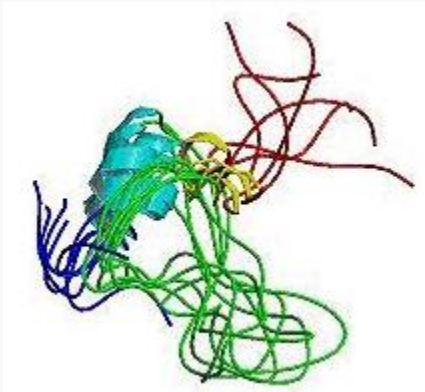
## GENE INFORMATION

|                       |                                                                                                                                                                                                                                           |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Gene Name</b>      | IGF1                                                                                                                                                                                                                                      |
| <b>Synonyms</b>       | IBP1; IGF-IA; IGF-IB; IGF1; MGF; Somatomedin-C; Insulin-like growth factor IA precursor; Insulin-like growth factor IB precursor; Mechano growth factor; insulin-like growth factor 1; IGF1; insulin-like growth factor 1 (somatomedin C) |
| <b>Gene ID</b>        | 3479                                                                                                                                                                                                                                      |
| <b>mRNA Refseq</b>    | NM_000618.3                                                                                                                                                                                                                               |
| <b>Protein Refseq</b> | NP_000609.1                                                                                                                                                                                                                               |
| <b>MIM</b>            | 147440                                                                                                                                                                                                                                    |
| <b>UniProt ID</b>     | P01343; P05019                                                                                                                                                                                                                            |

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|------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| <b>Chromosome Location</b>         | 12q22-q23                                                                                                                  |
| <b>Pathway</b>                     | Focal adhesion, Glioma, Long-term depression, Melanoma, Prostate cancer, mTOR signaling pathway                            |
| <b>Function</b>                    | Growth factor activity, Hormone activity, Insulin-like growth factor receptor binding, Prothoracicotropic hormone activity |
| <b>PDBrendering based on 1bqt.</b> |                                         |