

# Human IGF1 / IGF-I Protein

Catalog Number: 10598-HNAE



Sino Biological  
Biological Solution Specialist

## General Information

### Gene Name Synonym:

IGF-1; IGF-I; IGF1A; IGF1; IGF?I; MGF

### Protein Construction:

A DNA sequence encoding the human IGF1 (P05019-1) (Gly49-Ala118) was expressed.

**Source:** Human

**Expression Host:** E. coli

## QC Testing

**Purity:** > 95 % as determined by SDS-PAGE

### Bio Activity:

**1. Measured by its binding ability in a functional ELISA. Immobilized Human IGF1 (Cat:10598-HNAE) at 2 µg/ml (100 µl/well) can bind Human IGFBP4 His (Cat:10967-H08H), the EC<sub>50</sub> of Human IGFBP4 His is 10-60 ng/mL. 2. Measured in a serum-free cell proliferation assay using MCF-7 human breast cancer cells. The ED<sub>50</sub> for this effect is typically 3.5-14 ng/mL.**

### Endotoxin:

Please contact us for more information.

**Predicted N terminal:** Met

### Molecular Mass:

The recombinant human IGF1 consists of 71 amino acids and has a calculated molecular mass of 7.8 KDa.

### Formulation:

Lyophilized from sterile 30% Acetonitrile, 0.1% TFA

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Stability & Storage:

Samples are stable for twelve months from date of receipt at -20°C to -80°C.

Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

IGF I, also known as Mechano Growth Factor, somatomedin-C, IGF-I, and IGF1, is a secreted protein that belongs to the insulin family. The insulin family, comprised of insulin, relaxin, insulin-like growth factors I and II (IGF-I and IGF-II), and possibly the beta-subunit of 7S nerve growth factor, represents a group of structurally related polypeptides whose biological functions have diverged. The IGFs, or somatomedins, constitute a class of polypeptides that have a key role in pre-adolescent mammalian growth. IGF-I expression is regulated by GH and mediates postnatal growth, while IGF-II appears to be induced by placental lactogen during prenatal development. IGF1 / IGF-I may be a physiological regulator of [1-14C]-2-deoxy-D-glucose (2DG) transport and glycogen synthesis in osteoblasts. IGF1 / IGF-I stimulates glucose transport in rat bone-derived osteoblastic (PyMS) cells and is effective at much lower concentrations than insulin, not only regarding glycogen and DNA synthesis but also about enhancing glucose uptake. Defects in IGF1 / IGF-I are the cause of insulin-like growth factor I deficiency (IGF1 deficiency) which is an autosomal recessive disorder characterized by growth retardation, sensorineural deafness, and mental retardation.

## References

1. Jansen M., *et al.*, (1983), Sequence of cDNA encoding human insulin-like growth factor I precursor. *Nature* 306:609-611. 2. de Pagter-Holthuisen P., *et al.*, (1986), Organization of the human genes for insulin-like growth factors I and II. *FEBS Lett.* 195:179-184. 3. le Bouc Y., *et al.*, (1986), Complete characterization of the human IGF-I nucleotide sequence isolated from a newly constructed adult liver cDNA library. *FEBS Lett.* 196:108-112.