Human IGF1 / IGF-I Protein

Catalog Number: 10598-HNAE



General Information

Gene Name Synonym:

IGF-1: IGF-I: IGF1A: IGFI: 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 $_{50}$ 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 $_{50}$ 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 $^{\circ}\text{C}$ to -80 $^{\circ}\text{C}$.

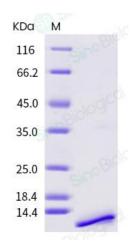
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

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 insulinlike growth factor I precursor. Nature 306:609-611. 2.de Pagter-Holthuizen P., et al., (1986), Organization of the human genes for insulinlike 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.