

Human IGF1 / IGF-I Protein

Catalog Number: 10598-HNAE



Sino Biological
Biological Solution Specialist

General Information

Gene Name Synonym:

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

Protein Construction:

A DNA sequence encoding the mature form of human IGF1 isoform 1 (P05019-1) (Gly 49-Ala 118) was expressed and purified.

Source: Human

Expression Host: E. coli

QC Testing

Purity: > 95 % as determined by SDS-PAGE

Bio Activity:

1. Measured by its ability to bind human IGFBP4-His (Cat:10967-H08H) in a functional ELISA. 2. Measured by its ability to bind mouse IGFBP4-His (Cat:50250-M08H) in a functional ELISA. 3. Measured by its ability to bind Cynomolgus IGFBP1-His (Cat:90085-C08H) in a functional ELISA. 4. Measured by its ability to bind human IGF1R (aa 954-1367)-GST (Cat:10164-H20B1) in a functional ELISA. 5. Measured in a serum-free cell proliferation assay using MCF-7 human breast cancer cells. The ED₅₀ for this effect is typically 0.5-2 ng/mL. 6. Measured in a cell proliferation assay using MCF-7 cells. The ED₅₀ for this effect is typically 3.5-14 ng/mL.

Endotoxin:

Please contact us for more information.

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met

Molecular Mass:

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

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

Storage:

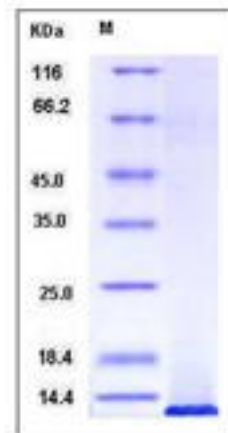
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

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 which 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 with regard to 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.

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