Data Sheet (Cat.No.TMPY-04878)

TargetMol

IGF1/IGF-I Protein, Mouse, Recombinant

General Information

Synonyms:	insulin-like growth factor 1 (somatomedin C);Igf-I;C730016P09Rik;Igf-1
Protein Construction:	A DNA sequence encoding the mouse IGF1 (NP_001104744.1) (Gly49-Ala118) was expressed. Predicted N terminal: Gly 49
Species:	Mouse
Expression Host:	P. pastoris (Yeast)
Accession:	E9PU89
Molecular Weight:	7.7 kDa (predicted)

QC Testing

Biological Activity:	Measured in a cell proliferation assay using MCF-7 cells. The ED50 for this effect is 0.2-1.2 μg/mL.
Purity:	> 95 % as determined by SDS-PAGE.
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

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.

Reference

Jansen M., et al.,(1983), Sequence of cDNA encoding human insulin-like growth factor I precursor. Nature 306:609-611.

de Pagter-Holthuizen P., et al., (1986), Organization of the human genes for insulin-like growth factors I and II. FEBS Lett. 195:179-184.

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.