

Recombinant Mouse IGF-II Protein

Catalog No.: RP01881 Recombinant

Sequence Information

Species	Gene ID	Swiss Prot
Mouse	16002	P09535

Tags

C-hFc

Synonyms

C11orf43; chromosome 11 open reading frame 43; FLJ22066; FLJ44734; GRDF; IGF2; IGF-2; IGFII; IGF-II; insulin-like growth factor 2 (somatomedin A); insulin-like growth factor II; insulin-like growth factor type 2; MSA; PEG2; PP9974; somatomedin-A

Product Information

Source	Purification
HEK293 cells	> 95% by SDS-PAGE.

Endotoxin

<0.1EU/μg of the protein by LAL method.

Formulation

Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.

Reconstitution

Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stabilizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

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Background

IGF-II (Insulin-like growth factor II; also multiplication-stimulating polypeptide/MSP and somatomedin-A) is a secreted 8 kDa polypeptide that belongs to the insulin family of peptide growth factors. It is part of a complex system of growth and metabolic-regulating proteins that is particularly important during development. It has been associated with nervous system proliferation and differentiation, myelination, adrenal cortical proliferation, and skeletal growth and differentiation. In human, IGF-II is primarily synthesized by the liver, and circulates at high levels in both fetus and adult. In rodent, however, IGF-II levels drop after the perinatal period, an effect attributed to the lack of a key gene promoter. This may indicate that postnatally, IGF-II has either a limited, or local effect only in rodent. For example, evidence suggests IGF-II may be the intermediary for SHH induction of VEGF attendant with local neovascularization. Rodent cells known to express IGF-II include astrocytes, hepatocytes, osteoblasts, embryonic striated muscle cells plus Kupffer cells and Ito cells. Mouse IGF-II is synthesized as a 180 amino acid (aa) preproprecursor. It contains a 24 aa signal sequence, a 67 aa mature region, and an 89 aa C-terminal prodomain that is alternatively referred to as the E-peptide. Mature IGF-II is 91% and 97% aa identical to human and rat IGF-II, respectively. Proper processing of IGF-II requires the chaperone activity of GRP94. This generates an 8 kDa mature form, an 18 kDa, 156 aa proform, and a potential 11 kDa, 88 aa "Big" form (aa 25-112). This 11 kDa "Big" form would be equivalent to human 15-16 kDa IGF-II, with the 5 kDa difference attributable to the presence of O-linked glycosylation. There is an additional 34 aa proteolytic fragment that is termed preptin and contains aa 93-126 of the preproprecursor. This is distinct from IGF-II, is secreted by pancreatic β cells, and facilitates insulin secretion. IGF-II has multiple binding partners. It binds to IGF-IR, the Insulin receptor (IR)-type A and IGF-IR:IR-A hybrids, the type 2 IGF receptor (IGF-2R), and IGF binding proteins 1-6. The first three receptors initiate downstream signaling events, the IGF-2R sequesters local IGF-II, and the six IGFBPs regulate IGF-II activity in various tissues.

Basic Information

Description

Recombinant Mouse IGF-II Protein is produced by HEK293 cells expression system. The target protein is expressed with sequence (Ala25-Glu91) of Mouse IGF-II (Accession #NP_001116208.1) fused with a hFc at the C-terminus.

Bio-Activity

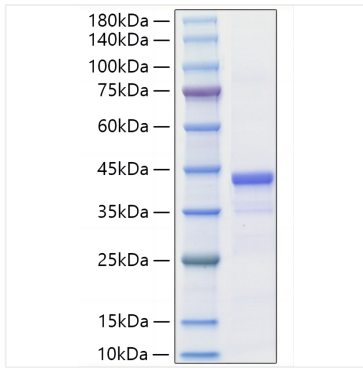
Storage

Store at -20°C. Store the lyophilized protein at -20°C to -80°C up to 1 year from the date of receipt.

After reconstitution, the protein solution is stable at -20°C for 3 months, at 2-8°C for up to 1 week.

Avoid repeated freeze/thaw cycles.

Validation Data



Recombinant Mouse IGF-II Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 30-45 kDa.