RP01881

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Recombinant Mouse IGF-II Protein

Catalog No.: RP01881 Recombinant

Sequence Information

Species	Gene ID	Swiss Prot
HEK293 cells	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
HEK293 cells

Purification
≥ 95 % as determined by SDS-PAGE.

Endotoxin
< 0.1 EU/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 stablizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

Contact

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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 b 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

Shipping
The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

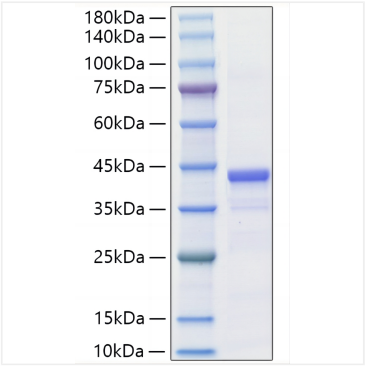
Operational Notes
For your safety and health, please wear a lab coat and disposable gloves for handling.

Storage
Store at -20℃.Store the lyophilized protein at -20℃ to -80 ℃ up to 1 year from

the date of receipt.
After reconstitution, the protein solution is stable at -20℃ for 3 months, at 2-8℃ for up to 1 week.
Avoid repeated freeze/thaw cycles.

* For your safety and health, please wear a lab coat and disposable gloves when handling.

Validation Data



Recombinant Mouse IGF-II Protein was determined by SDS-PAGE under reducing conditions with Coomassie Blue.