

Recombinant Human IGF-II/IGF2

Information

Accession #	P01344.1
Alternate Names	C11orf43; chromosome 11 open reading frame 43; FLJ22066; GRDF; IGF2; IGF-2; IGFII; IGF-II
Source	Human embryonic kidney cell, HEK293-derived human IGF-II/IGF2 protein
Protein sequence	Ala25-Glu91
M.Wt	7.5 kDa
Appearance	Solution protein.
Stability & Storage	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. 12 months from date of receipt, -20 to -70 °C as supplied.
Concentration	0.2 mg/mL
Formulation	Dissolved in sterile PBS buffer.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. This solution can be diluted into other aqueous buffers.
Biological Activity	Measured in a serum-free cell proliferation assay using MCF-7 human breast cancer cells. The EC50 for this effect is 0.6-2 ng/mL
Shipping Condition	Shipping with dry ice.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Quality Control

Purity	> 95%, determined by SDS-PAGE.
Endotoxin	<0.010 EU per 1 ug of the protein by the LAL method.

Description

Insulin-like Growth Factor II (IGF-II) is a potent mitogenic growth factor. However, unlike IGF-I which has important postnatal roles, the growth-promoting function of IGF-II is limited to embryonic development. Insulin-like growth factor I (also known as somatomedin C and somatomedin A) and insulin-like growth factor II (multiplication stimulating activity or MSA) belong to the family of insulin-like growth factors that are structurally homologous to proinsulin. Mature IGF-I and IGF-II share approximately 70% sequence identity. Both IGF-I and IGF-II are expressed in many tissues and cell types and may have autocrine, paracrine and endocrine functions. Mature IGF-I and IGF-II are highly conserved (100% identity between human, bovine and porcine proteins) and exhibit cross-species activity. Two specific cell surface receptors that bind IGF-I and

IGF-II have been identified. The type I IGF receptor that participates in IGF signaling is structurally related to the insulin receptor. It is a disulfide-linked heterotetrameric transmembrane glycoprotein with an intracellular tyrosine kinase domain. Type I IGF receptor binds IGF-I with higher affinity than IGF-II. The type II IGF receptor which binds IGF-II with much higher affinity than IGF-I is also the cation -independent mannose 6-phosphate receptor. At the present time, it is not known if the type II IGF receptor participates in the IGF signaling pathway. An additional unknown receptor which mediates IGF-II signaling has also been proposed. Circulating IGFs exist in complexes bound to IGF binding proteins. Currently, at least six high affinity binding proteins have been identified.

Reference

- [1]. Harvey MB, et al. (1991) Development. 111(4): 1057-60.
- [2]. Peters G, et al. (2003) Virchows Arch. 443(2): 139-45.
- [3]. Burrow S, et al. (1998) J Surg Oncol. 69(1): 21-7.

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