

ARG70301 Human IGF1 recombinant protein (Active) (Fc-His-tagged, C-ter)

Package: 100 µg
Store at: -20°C

Summary

Product Description	HEK293 expressed, Fc-His-tagged (C-ter) Active Human IGF1 recombinant protein.
Tested Reactivity	Hu
Tested Application	Binding, FuncSt, SDS-PAGE
Target Name	IGF1
Species	Human
A.A. Sequence	Gly49 - Ala118 of Human IGF1 (NP_001104755.1) with an Fc-6X His tag at the C-terminus.
Expression System	HEK293
Activity	Active
Activity Note	Measured by its ability to stimulate p70 S6 Kinase (Thr389) and p85 S6 Kinase (Thr412) autophosphorylation in 293T human embryonic kidney cells. 0.01-1 ng/ml of Recombinant Human IGF1 can effectively enhance p70 S6 Kinase (Thr389) and p85 S6 Kinase (Thr412) autophosphorylation. Measured in a cell proliferation assay using MCF-7 cells. The ED50 for this effect is typically 7.5-30 ng/ml.
Alternate Names	MGF; Insulin-like growth factor I; Mechano growth factor; Somatomedin-C; IGF-I; IGF-I

Application Instructions

Application Note	Binding activity test: Measured by its binding ability in a functional ELISA. Immobilized recombinant human IGF1 at 1µg/ml (100 µl/well) can bind recombinant human IGF1 with a linear range of 30-250ng/ml.
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Properties

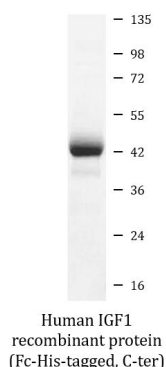
Form	Powder
Purification Note	0.22 µm filter sterilized. Endotoxin level is < 0.1 EU/µg of the protein, as determined by the LAL test.
Purity	> 87% (by SDS-PAGE)
Buffer	PBS (pH 7.4)
Reconstitution	Reconstitute to a concentration of 0.1 - 0.5 mg/ml in sterile distilled water.
Storage instruction	For long term, lyophilized protein should be stored at -20°C or -80°C. After reconstitution, aliquot and store at -20°C for up to one month, at 2-8°C for up to one week. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

Gene Symbol	IGF1
Gene Full Name	insulin-like growth factor 1 (somatomedin C)

Background	The protein encoded by this gene is similar to insulin in function and structure and is a member of a family of proteins involved in mediating growth and development. The encoded protein is processed from a precursor, bound by a specific receptor, and secreted. Defects in this gene are a cause of insulin-like growth factor I deficiency. Alternative splicing results in multiple transcript variants encoding different isoforms that may undergo similar processing to generate mature protein. [provided by RefSeq, Sep 2015]
Function	The insulin-like growth factors, isolated from plasma, are structurally and functionally related to insulin but have a much higher growth-promoting activity. May be a physiological regulator of [1-14C]-2-deoxy-D-glucose (2DG) transport and glycogen synthesis in osteoblasts. Stimulates glucose transport in 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. May play a role in synapse maturation (PubMed:21076856, PubMed:24132240). Ca(2+)-dependent exocytosis of IGF1 is required for sensory perception of smell in the olfactory bulb (By similarity). Acts as a ligand for IGF1R. Binds to the alpha subunit of IGF1R, leading to the activation of the intrinsic tyrosine kinase activity which autophosphorylates tyrosine residues in the beta subunit thus initiating a cascade of down-stream signaling events leading to activation of the PI3K-AKT/PKB and the Ras-MAPK pathways. Binds to integrins ITGAV:ITGB3 and ITGA6:ITGB4. Its binding to integrins and subsequent ternary complex formation with integrins and IGFR1 are essential for IGF1 signaling. Induces the phosphorylation and activation of IGFR1, MAPK3/ERK1, MAPK1/ERK2 and AKT1 (PubMed:19578119, PubMed:22351760, PubMed:23696648, PubMed:23243309). [UniProt]
Calculated Mw	22 kDa
Cellular Localization	Secreted. [UniProt]

Images



ARG70301 Human IGF1 recombinant protein (Active) (Fc-His-tagged, C-ter) SDS-PAGE image

SDS-PAGE analysis of ARG70301 Human IGF1 recombinant protein (Active) (Fc-His-tagged, C-ter).