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IGF-I

Catalog # PVGS1753

Product Information

Primary Accession	P16545
Species	Porcine
Sequence	Gly49-Ala118
Purity	≥ 95% as analyzed by SDS-PAGE
Endotoxin Level	
Biological Activity	ED_{50}
Expression System	E.coli
Theoretical Molecular Weight	7.7 kDa
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS, pH7.4
Reconstitution	Before opening, centrifuge the vial briefly to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH_2O up to 100 μg/ml
Storage & Stability	Upon receiving, this product remains stable up to 6 months at -20 °C or below. Upon reconstitution, the product should be stable up to 1 week at 4 °C or up to 3 months at -20 °C. Avoid repeated freeze-thaw cycles.

Additional Information

Gene ID	397491
Other Names	Insulin-like growth factor 1, Insulin-like growth factor I, IGF-I, Somatomedin, IGF1 {ECO:0000250|UniProtKB:P05019}
Target Background	Insulin-like growth factor 1 (IGF-1) is a hormone similar in molecular structure to insulin but has a much higher growth-promoting activity. IGF-1 consists of 70 amino acids in a single chain with three intramolecular disulfide bridges. IGF-1 may be a physiological regulator of [1-14C]-2-deoxy-D-glucose (2DG) transport and glycogen synthesis in osteoblasts. It is able to stimulate 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. It may also play a role in synapse maturation.

Protein Information

Name	IGF1 {ECO:0000250|UniProtKB:P05019}

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. Ca(2+)-dependent exocytosis of IGF1 is required for sensory perception of smell in the olfactory bulb. 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 (By similarity). As part of the MAPK/ERK signaling pathway, acts as a negative regulator of apoptosis in cardiomyocytes via promotion of STUB1/CHIP-mediated ubiquitination and degradation of ICER-type isoforms of CREM (By similarity).
Cellular Location	Secreted {ECO:0000250|UniProtKB:P05017}.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.