

Human IGF-1 Protein; His Tag

Product Information

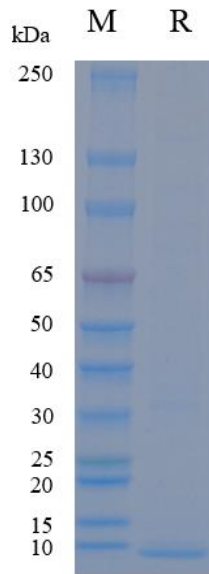
Product Name	Human IGF-1 Protein; His Tag
Storage temp	Store at $\leq -70^{\circ}\text{C}$, stable for 6 months after receipt. Recommend to aliquot the protein into smaller quantities for optimal storage. Please minimize freeze-thaw cycles.
Catalog# / Size	GM-87635RP-100 / 100 μg GM-87635RP-1000 / 1 mg

Protein Information

Alternative Names	IGF-I, IGF1A, somatomedin C, MGF, insulin-like growth factor 1
Source	Human IGF-1 Protein; His Tag (GM-87635RP) is expressed from human 293 cells (HEK-293). It contains AA Gly 49 - Ala 118 (Accession # P05019-1). This protein carries a His tag at the N-terminus.
Purity	> 90% as determined by SDS-PAGE
Endotoxin	< 1 EU/ μg , determined by LAL gel clotting assay
Predicted Mol Mass	8.5 KDa
Formulation	Supplied as a 0.2 μm filtered solution of PBS, pH7.2-7.4.
Description	<p>IGF-1, or insulin-like growth factor 1, is a peptide hormone primarily produced in the liver under the influence of growth hormone (GH). It plays a key role in growth and development, mediating the actions of GH on systemic body growth, bone formation, and muscle hypertrophy. IGF-1 circulates in the bloodstream mostly bound to IGF-binding proteins (IGFBPs), which modulate its bioavailability and activity. The peptide has a high degree of homology to insulin and exerts its effects through specific receptor signaling, with critical roles in cellular proliferation, differentiation, and metabolism.</p> <p>IGF-1 signals mainly through the IGF-1 receptor (IGF1R), a receptor tyrosine kinase. Upon ligand binding, IGF1R activates downstream pathways, notably the PI3K-Akt-mTOR axis, promoting protein synthesis, cell survival, and metabolic regulation, as well as the MAPK/ERK pathway, which contributes to cell proliferation and differentiation. This signaling is tightly regulated by IGF-binding proteins (IGFBPs) and proteases, which control ligand availability. Dysregulation of IGF-1 signaling has been linked to growth disorders and various diseases, including cancer and metabolic syndromes.</p>

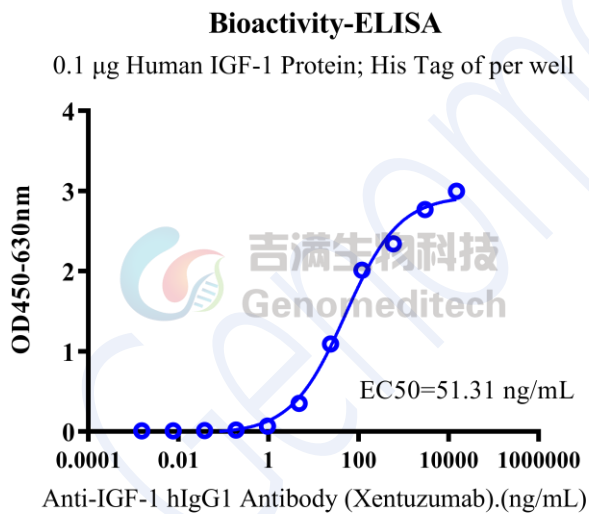
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SDS-PAGE



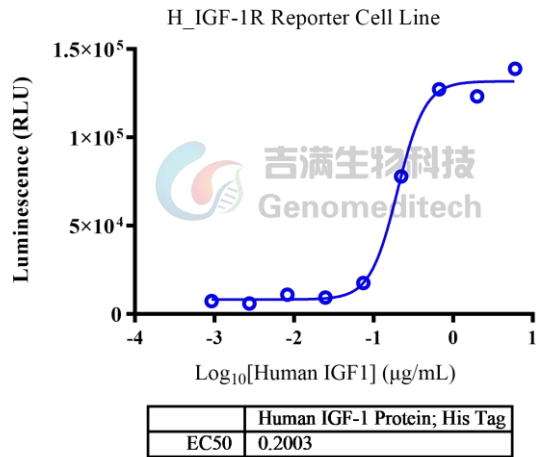
On SDS-PAGE under reducing (R) condition. The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 90%.

Bioactivity-ELISA



Human IGF-1 Protein; His Tag (Catalog # GM-87635RP) was immobilized at 1 μ g/ml (100 μ L/well). Increasing concentrations of Anti-IGF-1 hIgG1 Antibody (Xentuzumab) (Catalog # GM-88288AB) were added.

Bioactivity-CELL BASE



Human IGF-1 Protein; His Tag (Catalog # GM-87635RP) was added into H_IGF-1R Reporter Cell Line (Catalog # GM-C28412) and stimulates related signals.