

IGF-I R Protein, Cynomolgus (HEK293, His)

Cat. No.:	HY-P78586
Synonyms:	IGF1R; IGFR; JTK13; CD221; MGC142170; MGC142172; MGC18216
Species:	Cynomolgus
Source:	HEK293
Accession:	G7P9I7 (E31-N908)
Gene ID:	102130142
Molecular Weight:	Due to glycosylation, the protein migrates to 48-58 kDa (β subunit) and 100-115 kDa (α subunit) and 130-150 kDa

PROPERTIES

Biological Activity	Immobilized Cynomolgus IGF-I R His at 0.5 $\mu\text{g}/\text{mL}$ (100 $\mu\text{L}/\text{well}$) on the plate. Dose response curve for Anti-IGF-I R Antibody, hFc Tag with the EC_{50} of 5.7 ng/ml determined by ELISA.
Appearance	Lyophilized powder.
Formulation	Lyophilized a 0.22 μm filtered solution of PBS, pH 7.4. Normally 8% trehalose is added as protectant before lyophilization.
Endotoxin Level	<1 EU/ μg , determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 $\mu\text{g}/\text{mL}$ in ddH ₂ O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

The IGF-I R protein, a receptor tyrosine kinase, serves as a mediator for the actions of insulin-like growth factor 1 (IGF1). It exhibits a high affinity for IGF1, lower affinity for IGF2, and insulin (INS). Activation of IGF1R plays a pivotal role in controlling cell growth and survival, with critical implications in tumor transformation and the survival of malignant cells. Upon ligand binding, the receptor kinase is activated, leading to autophosphorylation and the tyrosine phosphorylation of various substrates, including insulin-receptor substrates (IRS1/2), Shc, and 14-3-3 proteins. Phosphorylation of IRS proteins initiates two main signaling pathways: the PI3K-AKT/PKB pathway and the Ras-MAPK pathway. Activation of the MAPK pathway enhances cellular proliferation, while activation of the PI3K pathway inhibits apoptosis and stimulates protein synthesis. Furthermore, IGF1R signals through the Janus kinase/signal transducer and activator of transcription pathway (JAK/STAT), where phosphorylation of JAK proteins can activate STAT proteins, particularly STAT3, contributing to the transforming activity of IGF1R. Additionally, IGF1R activates JNK kinases and exerts inhibitory effects on JNK activation. When forming a

hybrid receptor with INSR, IGF1R binds IGF1.

Caution: Product has not been fully validated for medical applications. For research use only.

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