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

Cat. No.:	HY-P78723
Synonyms:	IGF1R; IGFR; JTK13; CD221; MGC142170; MGC142172; MGC18216
Species:	Mouse
Source:	HEK293
Accession:	Q60751-1 (E31-H936)
Gene ID:	16001
Molecular Weight:	110-140 & 50-65 kDa

PROPERTIES

AA Sequence

E I C G P G I D I R N D Y Q Q L K R L E N C T V I E G F L H I L L I S K A E D Y
R S Y R F P K L T V I T E Y L L L F R V A G L E S L G D L F P N L T V I R G W K
L F Y N Y A L V I F E M T N L K D I G L Y N L R N I T R G A I R I E K N A D L C
Y L S T I D W S L I L D A V S N N Y I V G N K P P K E C G D L C P G T L E E K P
M C E K T T I N N E Y N Y R C W T T N R C Q K M C P S V C G K R A C T E N N E C
C H P E C L G S C H T P D D N T T C V A C R H Y Y Y K G V C V P A C P P G T Y R
F E G W R C V D R D F C A N I P N A E S S D S D G F V I H D D E C M Q E C P S G
F I R N S T Q S M Y C I P C E G P C P K V C G D E E K K T K T I D S V T S A Q M
L Q G C T I L K G N L L I N I R R G N N I A S E L E N F M G L I E V V T G Y V K
I R H S H A L V S L S F L K N L R L I L G E E Q L E G N Y S F Y V L D N Q N L Q
Q L W D W N H R N L T V R S G K M Y F A F N P K L C V S E I Y R M E E V T G T K
G R Q S K G D I N T R N N G E R A S C E S D V L R F T S T T T W K N R I I I T W
H R Y R P P D Y R D L I S F T V Y Y K E A P F K N V T E Y D G Q D A C G S N S W
N M V D V D L P P N K E G E P G I L L H G L K P W T Q Y A V Y V K A V T L T M V
E N D H I R G A K S E I L Y I R T N A S V P S I P L D V L S A S N S S S Q L I V
K W N P P T L P N G N L S Y Y I V R W Q R Q P Q D G Y L Y R H N Y C S K D K I P
I R K Y A D G T I D V E E V T E N P K T E V C G G D K G P C C A C P K T E A E K
Q A E K E E A E Y R K V F E N F L H N S I F V P R P E R R R R D V M Q V A N T T
M S S R S R N T T V A D T Y N I T D P E E F E T E Y P F F E S R V D N K E R T V
I S N L R P F T L Y R I D I H S C N H E A E K L G C S A S N F V F A R T M P A E
G A D D I P G P V T W E P R P E N S I F L K W P E P E N P N G L I L M Y E I K Y
G S Q V E D Q R E C V S R Q E Y R K Y G G A K L N R L N P G N Y T A R I Q A T S
L S G N G S W T D P V F F Y V P A K T T Y E N F M H

Biological Activity	1. Immobilized Mouse IGF1R, His Tag at 1 μg/mL (100 μl/well) on the plate. Dose response curve for Human IGFI, hFc Tag with the EC_{50} of 2.58 μg/mL determined by ELISA. 2.Measured by its binding ability in a functional ELISA. When Recombinant Mouse IGF-I R is immobilized at 5 μg/mL (100 μL/well) can bind Recombinant Human IGF-I. The ED_{50} for this effect is 322.3 ng/mL.
Appearance	Lyophilized powder

Formulation	Lyophilized from a 0.22 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
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.

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