



## Synonym

IGF1R,IGFR,JTK13,CD221,MGC142170,MGC142172,MGC18216

## Source

Mouse IGF-I R, His Tag(IGR-M5223) is expressed from human 293 cells (HEK293). It contains AA Glu 31 - His 936 (Accession # [Q60751-1](#)).

Predicted N-terminus: Glu 31 & Asp 742

## Molecular Characterization

IGF-I R(Glu 31 - His 936)  
Q60751-1 Poly-his

This protein carries a polyhistidine tag at the C-terminus. This protein contains a furin convertase cleavage site, 738-RRRR-741, and will be partially processed into N ( $\alpha$  chain) and C-terminal fragment (partial  $\beta$  chain) with calculated MW of 81.7 kDa and 24.3 kDa respectively. The protein migrates as 45-55 kDa (partial  $\beta$  chain), 100-125 kDa ( $\alpha$  chain) and 150 kDa ( $\alpha$  chain & partial  $\beta$  chain) under reducing (R) condition (SDS-PAGE) due to glycosylation.

## Endotoxin

Less than 1.0 EU per  $\mu$ g by the LAL method.

## Purity

>90% as determined by SDS-PAGE.

## Formulation

Lyophilized from 0.22  $\mu$ m filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

## Reconstitution

Please see Certificate of Analysis for specific instructions.

*For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.*

## Storage

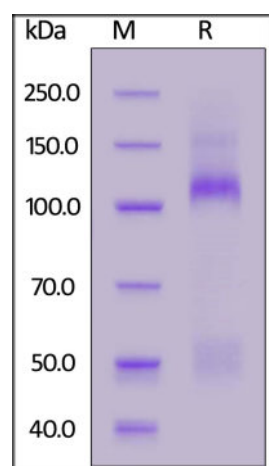
For long term storage, the product should be stored at lyophilized state at  $-20^{\circ}\text{C}$  or lower.

*Please avoid repeated freeze-thaw cycles.*

This product is stable after storage at:

- $-20^{\circ}\text{C}$  to  $-70^{\circ}\text{C}$  for 12 months in lyophilized state;
- $-70^{\circ}\text{C}$  for 3 months under sterile conditions after reconstitution.

## SDS-PAGE

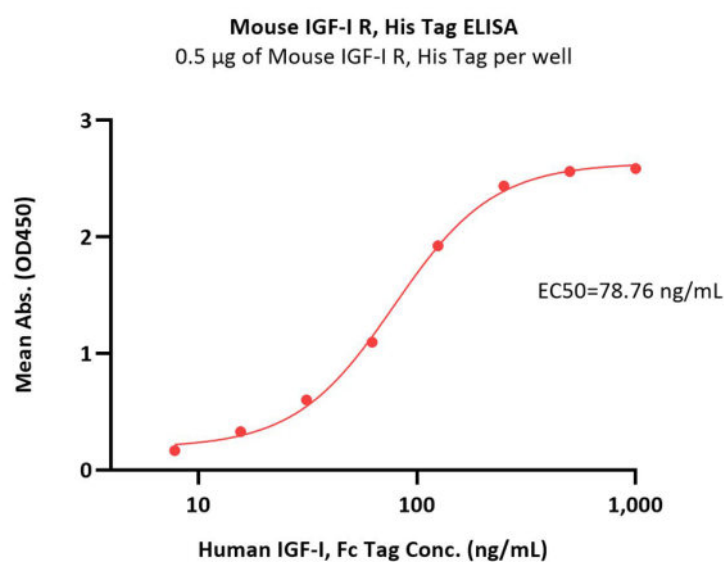


Mouse IGF-I R, His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90%.

## Bioactivity-ELISA

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Immobilized Mouse IGF-I R, His Tag (Cat. No. IGR-M5223) at 5 µg/mL (100 µL/well) can bind Human IGF-I, Fc Tag with a linear range of 7.8-125 ng/mL (QC tested).

## Background

The Insulin-like Growth Factor 1 Receptor (IGF1) is also known as CD221, JTK13, and is a transmembrane receptor that is activated by IGF-1 and by the related growth factor IGF-2. It belongs to the large class of tyrosine kinase receptors. This receptor mediates the effects of IGF-1, which is a polypeptide protein hormone similar in molecular structure to insulin. IGF1R is made up of two alpha subunits and two beta subunits, the Both the  $\alpha$  and  $\beta$  subunits are synthesized from a single mRNA precursor. The precursor is then glycosylated, proteolytically cleaved, and crosslinked by cysteine bonds to form a functional transmembrane  $\alpha\beta$  chain. The  $\alpha$  chains are located extracellularly while the  $\beta$  subunit spans the membrane and are responsible for intracellular signal transduction upon ligand stimulation. IGF1R have a binding site for ATP, which is used to provide the phosphates for autophosphorylation. There is a 60% homology between IGF1R and the insulin receptor. In response to ligand binding, the  $\alpha$  chains induce the tyrosine autophosphorylation of the  $\beta$  chains. This event triggers a cascade of intracellular signaling that, while somewhat cell type specific, often promotes cell survival and cell proliferation.

## Clinical and Translational Updates

Please contact us via [TechSupport@acrobiosystems.com](mailto:TechSupport@acrobiosystems.com) if you have any question on this product.

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