

# Recombinant Human Insulin Receptor/INSR Protein (His & GST Tag)



Catalog Number:PKSH030373

**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

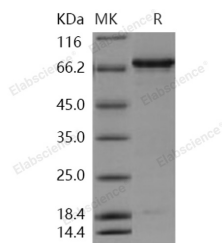
## Description

<b>Synonyms</b>	CD220;HHF5;Insulin Receptor
<b>Species</b>	Human
<b>Expression Host</b>	Baculovirus-Insect Cells
<b>Sequence</b>	Gly 989-Ser 1382
<b>Accession</b>	NP_000199.2
<b>Calculated Molecular Weight</b>	72.3 kDa
<b>Observed molecular weight</b>	70 kDa
<b>Tag</b>	N-His-GST
<b>Bioactivity</b>	The specific activity was determined to be 45 nmol/min/mg using Poly(Ala, Glu, Lys, Tyr)6:2:5:1 as substrate.

## Properties

<b>Purity</b>	> 92 % as determined by reducing SDS-PAGE.
<b>Endotoxin</b>	< 1.0 EU per µg of the protein as determined by the LAL method.
<b>Storage</b>	Store at < -20°C, stable for 6 months. Please minimize freeze-thaw cycles.
<b>Shipping</b>	This product is provided as liquid. It is shipped at frozen temperature with blue ice/gel packs. Upon receipt, store it immediately at < -20°C.
<b>Formulation</b>	Supplied as sterile 50mM Tris, 100mM NaCl, pH 7.5, 25% glycerol, 1mM TCEP, 0.5mM GSH
<b>Reconstitution</b>	Not Applicable

## Data



> 92 % as determined by reducing SDS-PAGE.

## Background

INSR (Insulin receptor), also known as CD220, is a transmembrane receptor that is activated by insulin. INSR belongs to the protein kinase superfamily, and exists as a tetramer consisting of two alpha subunits and two beta subunits linked by disulfide bonds. The alpha and beta subunits are encoded by a single INSR gene, and the beta subunits pass through the cellular membrane. As the receptor for insulin with tyrosine-protein kinase activity, INSR associates with downstream mediators upon binding to insulin, including IRS1 (insulin receptor substrate 1) and phosphatidylinositol 3'-kinase (PI3K). IRS-1 binding and phosphorylation eventually leads to an increase in the high affinity glucose transporter (Glut4) molecules on the outer membrane of insulin-responsive tissues. INSR isoform long and isoform short are expressed in the peripheral nerve, kidney, liver, striated muscle, fibroblasts and skin, and is found as a hybrid receptor with IGF1R which also binds IGF1 in muscle, heart, kidney, adipose tissue, skeletal muscle, hepatoma, fibroblasts, spleen and placenta.

## For Research Use Only

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Defects in Insulin Receptor/INSR are the cause of Rabson-Mendenhall syndrome (Mendenhall syndrome), insulin resistance (Ins resistance), leprechaunism (Donohue syndrome), and familial hyperinsulinemic hypoglycemia 5 (HHF5). It may also be associated with noninsulin-dependent diabetes mellitus (NIDDM).

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