

Recombinant Human INSR / CD220 (989-1382)

Catalog Number: 11081-H20B1



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

CD220, HHF5, INSR

Protein Construction:

A DNA sequence encoding the human INSR isoform long (NP_000199.2) cytoplasmic domain (Gly 989-Ser 1382) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect cells

QC Testing

Purity: >92 % as determined by SDS-PAGE.

Endotoxin:

<1.0 EU per µg protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met

Molecular Mass:

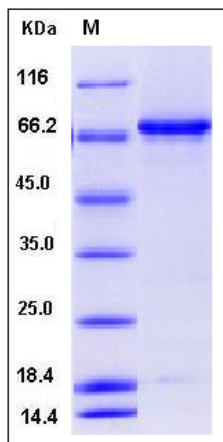
The recombinant human INSR (989-1382)/GST chimera consists of 631 amino acids and has a calculated molecular mass of 72.3 KDa. It migrates as an approximately 70 KDa band in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from 0.2µm filtered solution of 50mM Tris, 100mM NaCl, pH 7.4, 20%gly, 0.3 mM DTT

Normally 5 % - 8 % trehalose and mannitol are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

SDS-PAGE:



Usage Guide

Storage:

Store it under sterile conditions at -70°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

Protein Description

The insulin receptor (INSR), 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 isoform short is expressed also in the spleen and lymphoblasts. INSR is present as a hybrid receptor with IGF1R and are activated by IGF1, IGF2 and insulin. Defects in 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).

References

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3. Duckworth WC. et al., 1998, Endocr Rev. 19 (5): 608-24.
4. Maddux B A. et al., 2000, Diabetes. 49 (1): 13-9.
5. Longo N. et al., 2002, Hum Mol Genet. 11 (12): 1465-75.
6. Ward CW. et al., 2009, Bioessays. 31 (4): 422-34.

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