

Recombinant Human Insulin Receptor/INSR Protein (short isoform, His Tag)

Catalog No. PKSH031265

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

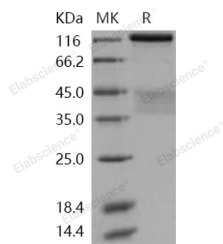
Description

Synonyms	CD220;HHF5;Insulin Receptor
Species	Human
Expression Host	HEK293 Cells
Sequence	Met 1-Lys 944
Accession	NP_001073285.1
Calculated Molecular Weight	83&23 kDa
Observed molecular weight	125-135 kDa & 40-45 kDa
Tag	C-His
Bioactivity	Measured by its ability to bind human Insulin in a functional ELISA.

Properties

Purity	> 95 % as determined by reducing SDS-PAGE.
Endotoxin	< 1.0 EU per µg of the protein as determined by the LAL method.
Storage	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Shipping	This product is provided as lyophilized powder which is shipped with ice packs.
Formulation	Lyophilized from sterile PBS, pH 7.4 Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Please refer to the specific buffer information in the printed manual.
Reconstitution	Please refer to the printed manual for detailed information.

Data



> 95 % 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

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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. 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).