INSR Lysate – Tissue Lysate

PRODUCT OVERVIEW

Product Name	INSR, Lysate
Full Product Name	Human INSR Protein Lysate
Product Gene Name	INSR lysate
Product Synonym Names	INSR; CD220; HHF5
Host	Human
Form/Format	Lyophilized
Preparation and Storage	Store at -20 degree C Once reconsituted, aliquot and store any remaining material at-20 degree C to avoid repeated freeze-thaw cycles.
Molecular Weight	155,146 Da
OMIM	125853
3D Structure	ModBase 3D Structure for P06213
Related Product Information for INSR lysate	Human INSR Protein Lysate 20ug is provided as a Lyophilized powder. This is a Recombinant Protein Lysate produced in HEK293T cells. This protein lysate can be reconsituted using SDS Sample Buffer.
Other Notes	Small volumes of INSR lysate vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for INSR purchase	MBS8413640 is a lysate targeting INSR. Also known as Human INSR Protein Lysate. Host: Human.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for INSR. It may not necessarily be applicable to this product.

NCBI GI #	119395736
NCBI GeneID	3643
NCBI Accession #	NP_000199
UniProt Primary Accession #	P06213
UniProt Secondary Accession #	Q17RW0; Q59H98; Q9UCB7; Q9UCB8; Q9UCB9
UniProt Related Accession #	P06213
GenBank Nucleotide #	NM_000208
NCBI Official Full Name	insulin receptor isoform Long preproprotein
NCBI Official Synonym Full Names	insulin receptor
NCBI Official Symbol	INSR
NCBI Official Synonym Symbols	HHF5; CD220
UniProt Protein Name	Insulin receptor
Protein Family	Insulin receptor

UniProt Gene Name	INSR
UniProt Synonym Gene Names	IR
UniProt Entry Name	INSR_HUMAN
NCBI Protein Information	insulin receptor; IR
UniProt Comments for INSR	INSR: a receptor tyrosine kinase that mediates the pleiotropic actions of insulin. Binding of insulin leads to phosphorylation of several intracellular substrates, including, insulin receptor substrates (IRS1, 2, 3, 4), SHC, GAB1, CBL and other signaling intermediates. Each of these phosphorylated proteins serve as docking proteins for other signaling proteins that contain Src-homology-2 domains (SH2 domain) that specifically recognize different phosphotyrosines residues, including the p85 regulatory subunit of PI3K and SHP2. Phosphorylation of IRSs proteins lead to the activation of two main signaling pathways: the PI3K-AKT pathway, which is responsible for most of the metabolic actions of insulin, and the Ras-MAPK pathway, which regulates expression of some genes and cooperates with the PI3K pathway to control cell growth and differentiation. In addition to binding insulin, the insulin receptor can bind insulin-like growth factors (IGFI and IGFII). The holoenzyme is cleaved into two chains, the alpha and beta subunits. The active complex is a tetramer containing 2 alpha and 2 beta chains linked by disulfide bonds. The alpha chains constitute the ligand- binding domain, while the beta chains carry the kinase domain. Interacts with SORBS1 but dissociates from it following insulin stimulation. Familial mutations associated with insulin resistant diabetes, acanthosis nigricans, pineal hyperplasia, and polycystic ovary syndrome. SNP variants may be associated with polycystic ovary syndrome, atypical migraine and diabetic hyperlipidemia. Mutations also cause leprechaunism, a severe insulin resistance syndrome causing growth retardation and death in early infancy. Two isoforms of the human protein are produced by alternative splicing. The Short isoform has a higher affinity for insulin than the longer. Isoform Long and isoform Short are predominantly expressed in tissue targets of insulin metabolic effects: liver, adipose tissue and skeletal muscle but are also expressed in the peripheral nerve, kidney, pulmonary alveoli, pancreatic acini, placenta vascular endothelium, fibroblasts, monocytes, granulocytes, erythrocytes and skin. Isoform Short is preferentially expressed in fetal cells such as fetal fibroblasts, muscle, liver and kidney. Found as a hybrid receptor with IGF1R in muscle, heart, kidney, adipose tissue, skeletal muscle, hepatoma, fibroblasts, spleen and placenta. Overexpressed in several tumors, including breast, colon, lung, ovary, and thyroid carcinomas. Protein type: EC 2.7.10.1; Membrane protein, integral; Protein kinase, TK; Kinase, protein; Protein kinase, tyrosine (receptor); TK group; InsR family Chromosomal Location of Human Ortholog: 19p13.3-p13.2 Cellular Component: membrane; intracellular membrane-bound organelle; integral to plasma membrane; plasma membrane; endosome membrane; caveola; receptor complex Molecular Function: insulin binding; insulin-like growth factor receptor binding; protein binding; insulin-like growth factor I binding; GTP binding; protein-tyrosine kinase activity; insulin receptor substrate binding; PTB domain binding; phosphoinositide 3-kinase binding; receptor signaling protein tyrosine kinase activity; insulin-like growth factor II binding; ATP binding; insulin receptor activity Biological Process: heart morphogenesis; epidermis development; positive regulation of nitric oxide biosynthetic process; peptidyl-tyrosine phosphorylation; activation of MAPK activity; protein amino acid autophosphorylation; positive regulation of glycogen biosynthetic process; regulation of embryonic development; exocrine pancreas development; glucose homeostasis; positive regulation of glucose import; positive regulation of MAPKKK cascade; regulation of transcription, DNA-dependent; male sex determination; positive regulation of cell proliferation; protein heterotetramerization; positive regulation of developmental growth; positive regulation of mitosis; activation of protein kinase B; positive regulation of protein kinase B signaling cascade; G-protein coupled receptor protein signaling pathway; cellular response to insulin stimulus; carbohydrate metabolic process; positive regulation of glycolysis; insulin receptor signaling pathway; activation of protein kinase activity; positive regulation of protein amino acid phosphorylation; positive regulation of DNA replication; transformation of host cell by virus; positive regulation of cell migration Disease: Diabetes Mellitus, Insulin-resistant, With Acanthosis Nigricans; Hyperinsulinemic Hypoglycemia, Familial, 5; Pineal Hyperplasia, Insulin-resistant Diabetes Mellitus, And Somatic Abnormalities; Donohue Syndrome
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