

Anti-IGF1R Antibody
Catalog # ABO11055

Specification

Anti-IGF1R Antibody - Product Information

Application	WB, IHC
Primary Accession	P08069
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized

Description

Rabbit IgG polyclonal antibody for Insulin-like growth factor 1 receptor(IGF1R) detection. Tested with WB, IHC-P in Human;Mouse;Rat.

Reconstitution

Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Anti-IGF1R Antibody - Additional Information

Gene ID 3480

Other Names

Insulin-like growth factor 1 receptor, 2.7.10.1, Insulin-like growth factor I receptor, IGF-I receptor, CD221, Insulin-like growth factor 1 receptor alpha chain, Insulin-like growth factor 1 receptor beta chain, IGF1R

Calculated MW

154793 MW KDa

Application Details

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, Rat, Mouse, By Heat
Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat

Subcellular Localization

Cell membrane ; Single-pass type I membrane protein .

Tissue Specificity

Found as a hybrid receptor with INSR in muscle, heart, kidney, adipose tissue, skeletal muscle, hepatoma, fibroblasts, spleen and placenta (at protein level). Expressed in a variety of tissues. Overexpressed in tumors, including melanomas, cancers of the colon, pancreas prostate and kidney. .

Protein Name

Insulin-like growth factor 1 receptor

Contents

Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na₂HPO₄, 0.05mg Thimerosal, 0.05mg NaN₃.

Immunogen

A synthetic peptide corresponding to a sequence at the C-terminus of human IGF1 Receptor(1353-1367aa RKNERALPLQSSSTC), different from the related rat and mouse sequences by one amino acid.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20°C for one year. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for a longer time. Avoid repeated freezing and thawing.

Sequence Similarities

Belongs to the protein kinase superfamily. Tyr protein kinase family. Insulin receptor subfamily.

Anti-IGF1R Antibody - Protein Information

Name IGF1R

Function

Receptor tyrosine kinase which mediates actions of insulin-like growth factor 1 (IGF1). Binds IGF1 with high affinity and IGF2 and insulin (INS) with a lower affinity. The activated IGF1R is involved in cell growth and survival control. IGF1R is crucial for tumor transformation and survival of malignant cell. Ligand binding activates the receptor kinase, leading to receptor autophosphorylation, and tyrosines phosphorylation of multiple substrates, that function as signaling adapter proteins including, the insulin-receptor substrates (IRS1/2), Shc and 14-3-3 proteins. Phosphorylation of IRSs proteins lead to the activation of two main signaling pathways: the PI3K-AKT/PKB pathway and the Ras-MAPK pathway. The result of activating the MAPK pathway is increased cellular proliferation, whereas activating the PI3K pathway inhibits apoptosis and stimulates protein synthesis. Phosphorylated IRS1 can activate the 85 kDa regulatory subunit of PI3K (PIK3R1), leading to activation of several downstream substrates, including protein AKT/PKB. AKT phosphorylation, in turn, enhances protein synthesis through mTOR activation and triggers the antiapoptotic effects of IGF1R through phosphorylation and inactivation of BAD. In parallel to PI3K-driven signaling, recruitment of Grb2/SOS by phosphorylated IRS1 or Shc leads to recruitment of Ras and activation of the ras-MAPK pathway. In addition to these two main signaling pathways IGF1R signals also through the Janus kinase/signal transducer and activator of transcription pathway (JAK/STAT). Phosphorylation of JAK proteins can lead to phosphorylation/activation of signal transducers and activators of transcription (STAT) proteins. In particular activation of STAT3, may be essential for the transforming activity of IGF1R. The JAK/STAT pathway activates gene transcription and may be responsible for the transforming activity. JNK kinases can also be activated by the IGF1R. IGF1 exerts inhibiting activities on JNK activation via phosphorylation and inhibition of MAP3K5/ASK1, which is able to directly associate with the IGF1R.

Cellular Location

Cell membrane; Single-pass type I membrane protein

Tissue Location

Found as a hybrid receptor with INSR in muscle, heart, kidney, adipose tissue, skeletal muscle, hepatoma, fibroblasts, spleen and placenta (at protein level). Expressed in a variety of tissues. Overexpressed in tumors, including melanomas, cancers of the colon, pancreas prostate and kidney.

Anti-IGF1R Antibody - Protocols

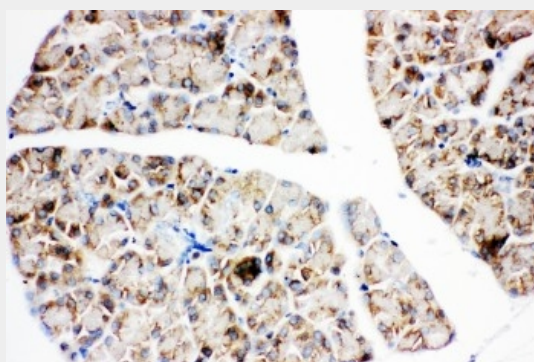
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Anti-IGF1R Antibody - Images



Anti-IGF1 Receptor antibody, ABO11055, Western blotting Lane 1: 293T Cell Lysate Lane 2: A549 Cell Lysate Lane 3: MCF-7 Cell Lysate



Anti-IGF1 Receptor antibody, ABO11055, IHC(P)IHC(P): Rat Pancreas Tissue

Anti-IGF1R Antibody - Background

IGF1R (Insulin-like Growth Factor 1 (IGF-1) Receptor) is a protein found on the surface of human cells. It is a transmembrane receptor that is activated by a hormone called Insulin-like growth factor 1 (IGF-1) and by a related hormone called IGF-2. It belongs to the large class of tyrosine kinase receptors. The IGF1R gene is mapped on 15q26.3. IGF-1 plays an important role in growth and

continues to have anabolic effects in adults - meaning that it can induce hypertrophy of skeletal muscle and other target tissues. Using a yeast 2-hybrid system, Dey et al.(1998) identified a regulatory subunit of phosphatidylinositol(PI) 3-kinase, PIK3R3, as a binding partner of IGF1R. Functional interaction between BRCA1 and SP1 in the regulation of the IGF1R gene was studied in Schneider cells, a Drosophila cell line which lacks endogenous SP1. In these cells, BRCA1 suppressed 45% of the SP1-induced trans-activation of the IGF1R promoter. Overexpression of the Grb10-binding fragment of Gifyf1 resulted in a significant increase in IGF1-stimulated IGF1R tyrosine phosphorylation. Like the insulin receptor, the IGF-1 receptor is a receptor tyrosine kinase - meaning it signals by causing the addition of a phosphate molecule on particular tyrosines. IGF-1 activates the Insulin receptor at approximately 0.1x the potency of insulin. Part of this signaling may be via IGF1R-InsulinReceptor heterodimers.