

IGF1 Receptor (IGF1R) Antibody (C-term) Blocking peptide
Synthetic peptide
Catalog # BP7649b**Specification****IGF1 Receptor (IGF1R) Antibody (C-term)
Blocking peptide - Product Information**Primary Accession [P08069](#)**IGF1 Receptor (IGF1R) Antibody (C-term)
Blocking peptide - Additional Information****Gene ID 3480****Other Names**

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

Target/Specificity

The synthetic peptide sequence used to
generate the antibody [<a href=/product/pr
oducts/AP7649b>AP7649b](#) was
selected from the C-term region of human
IGF1R . A 10 to 100 fold molar excess to
antibody is recommended. Precise
conditions should be optimized for a
particular assay.

Format

Peptides are lyophilized in a solid powder
format. Peptides can be reconstituted in
solution using the appropriate buffer as
needed.

Storage

Maintain refrigerated at 2-8°C for up to 6
months. For long term storage store at
-20°C.

Precautions

This product is for research use only. Not
for use in diagnostic or therapeutic
procedures.

**IGF1 Receptor (IGF1R) Antibody (C-term)
Blocking peptide - Protein Information****IGF1 Receptor (IGF1R) Antibody (C-term)
Blocking peptide - Background**

The IGF1R receptor binds insulin-like growth
factor with a high affinity and plays a critical
role in transformation events. Cleavage of the
precursor generates alpha and beta subunits.
It is highly overexpressed in most malignant
tissues where it functions as an anti-apoptotic
agent by enhancing cell survival. The protein
possess tyrosine kinase activity.

**IGF1 Receptor (IGF1R) Antibody (C-term)
Blocking peptide - References**

Song, R.X., et al., Proc. Natl. Acad. Sci. U.S.A.
101(7):2076-2081 (2004).Zhao, H., et al.,
Oncogene 23(3):786-794 (2004).Lu, Y., et al.,
Biochem. Biophys. Res. Commun.
313(3):709-715 (2004).Hakam, A., et al., Dig.
Dis. Sci. 48(10):1972-1978 (2003).Li, Y., et al.,
Arterioscler. Thromb. Vasc. Biol.
23(12):2178-2184 (2003).

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.

**IGF1 Receptor (IGF1R) Antibody (C-term)
Blocking peptide - Protocols**

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

- [Blocking Peptides](#)