


### Anti-IGF1 Receptor antibody ab39675

★★★★☆ **4 Abreviews** **56 References** **画像数 3**

#### 製品の概要

製品名	Anti-IGF1 Receptor antibody
製品の詳細	Rabbit polyclonal to IGF1 Receptor
由来種	Rabbit
特異性	This antibody detects endogenous levels of total IGF1 Receptor protein. Crossreacts with insulin receptor (P06213) and insulin receptor related protein (P14616).
アプリケーション	<b>適用あり:</b> IHC-P, WB
種交差性	<b>交差種:</b> Human <b>交差が予測される動物種:</b> Mouse, Rat 
免疫原	The antiserum was produced against synthesized non phosphopeptide derived from human IGF1 Receptor around the phosphorylation site of tyrosine1161.
ポジティブ・コントロール	WB: HEK-293 and SK-OV3 cells treated with 10 mU/ml insulin. HeLa cell lysate. IHC: Human breast carcinoma and brain tumor tissues.
特記事項	<p>The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing.</p> <p>If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&amp;As</p>

#### 製品の特性

製品の状態	Liquid
保存方法	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
バッファー	pH: 7.40 Preservative: 0.02% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine), 0.87% Sodium chloride
精製度	Without Mg <sup>2+</sup> and Ca <sup>2+</sup> Immunogen affinity purified
特記事項 (精製)	This antibody was affinity purified from rabbit antiserum by affinity chromatography using epitope

specific immunogen.

ポリモノ  
アイソタイプ

ポリクローナル  
IgG

## アプリケーション

**The Abpromise guarantee** **Abpromise保証は、次のテスト済みアプリケーションにおけるab39675の使用に適用されます**  
アプリケーションノートには、推奨の開始希釈率がありますが、適切な希釈率につきましてはご検討ください。

アプリケーション	Abreviews	特記事項
IHC-P	★★★★☆ (1)	1/50 - 1/100. Perform heat mediated antigen retrieval with citrate buffer pH 6 before commencing with IHC staining protocol.
WB	★★★★☆ (2)	1/500 - 1/1000. Predicted molecular weight: 155 kDa.

## ターゲット情報

### 機能

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.

When present in a hybrid receptor with INSR, binds IGF1. PubMed:12138094 shows that hybrid receptors composed of IGF1R and INSR isoform Long are activated with a high affinity by IGF1, with low affinity by IGF2 and not significantly activated by insulin, and that hybrid receptors composed of IGF1R and INSR isoform Short are activated by IGF1, IGF2 and insulin. In contrast, PubMed:16831875 shows that hybrid receptors composed of IGF1R and INSR isoform Long and hybrid receptors composed of IGF1R and INSR isoform Short have similar binding characteristics, both bind IGF1 and have a low affinity for insulin.

### 組織特異性

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.

#### 関連疾患

Insulin-like growth factor 1 resistance

#### 配列類似性

Belongs to the protein kinase superfamily. Tyr protein kinase family. Insulin receptor subfamily. Contains 4 fibronectin type-III domains.

Contains 1 protein kinase domain.

#### 翻訳後修飾

Autophosphorylated on tyrosine residues in response to ligand binding. Autophosphorylation occurs in trans, i.e. one subunit of the dimeric receptor phosphorylates tyrosine residues on the other subunit. Autophosphorylation occurs in a sequential manner; Tyr-1165 is predominantly phosphorylated first, followed by phosphorylation of Tyr-1161 and Tyr-1166. While every single phosphorylation increases kinase activity, all three tyrosine residues in the kinase activation loop (Tyr-1165, Tyr-1161 and Tyr-1166) have to be phosphorylated for optimal activity. Can be autophosphorylated at additional tyrosine residues (in vitro). Autophosphorylated is followed by phosphorylation of juxtamembrane tyrosines and C-terminal serines. Phosphorylation of Tyr-980 is required for IRS1- and SHC1-binding. Phosphorylation of Ser-1278 by GSK-3beta restrains kinase activity and promotes cell surface expression, it requires a priming phosphorylation at Ser-1282. Dephosphorylated by PTPN1.

Polyubiquitinated at Lys-1168 and Lys-1171 through both 'Lys-48' and 'Lys-29' linkages, promoting receptor endocytosis and subsequent degradation by the proteasome. Ubiquitination is facilitated by pre-existing phosphorylation.

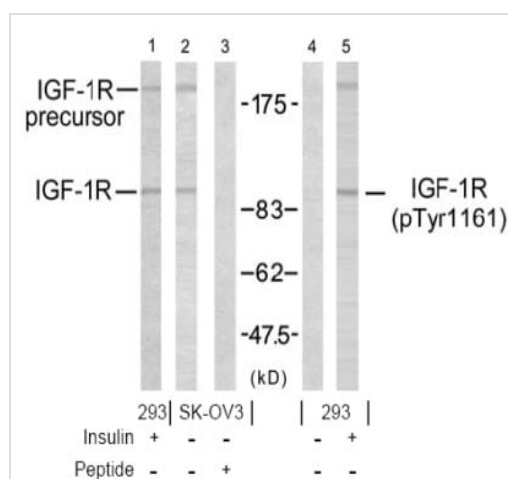
Sumoylated with SUMO1.

Controlled by regulated intramembrane proteolysis (RIP). Undergoes metalloprotease-dependent constitutive ectodomain shedding to produce a membrane-anchored 52 kDa C-Terminal fragment which is further processed by presenilin gamma-secretase to yield an intracellular 50 kDa fragment.

#### 細胞内局在

Cell membrane.

#### 画像



Western blot - Anti-IGF1 Receptor antibody (ab39675)

**Lanes 1-3** : Anti-IGF1 Receptor antibody (ab39675) (Anti-IGF1 Receptor antibody)

**Lanes 4-5** : Anti-IGF1 Receptor (phospho Y1161) antibody (**ab39398**) (Anti-IGF1 Receptor (phospho-Tyr1161) antibody)

**Lanes 1 & 5** : 293 cell lysate treated with insulin (10mU/ml)

**Lane 2** : SK-OV3 cell lysate

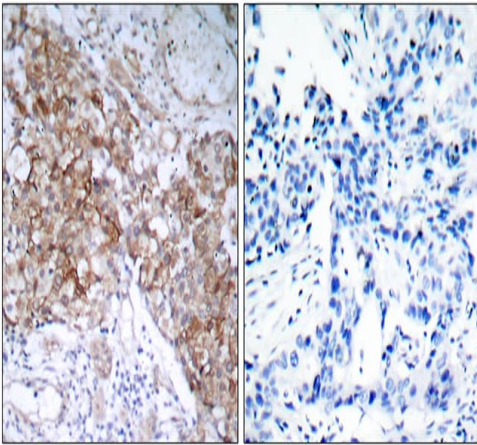
**Lane 3** : SK-OV3 cell lysate with Synthesized peptide

**Lane 4** : 293 cell lysate

**Predicted band size:** 155 kDa

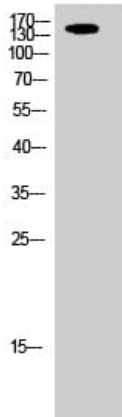
Western blot analysis using IGF1 Receptor antibody (ab39675, Lane 1, 2 and 3) and IGF1 Receptor (phospho-Tyr1161) antibody

([ab39398](#), Lane 4 and 5). Lane 1 and 5 treated with insulin (10mU/ml).



Paraffin-embedded human breast carcinoma tissue stained for IGF1 Receptor using ab39675 in immunohistochemical analysis. The image on the right is blocked with the synthesized peptide.

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IGF1 Receptor antibody (ab39675)



Anti-IGF1 Receptor antibody (ab39675) + HeLa cell lysate

**Predicted band size:** 155 kDa

Western blot - Anti-IGF1 Receptor antibody (ab39675)

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