abcam

Product datasheet

Anti-IGF1 Receptor antibody [EPR23027-204] ab263903

KO 評価済 リコンビナント RabMAb

3 References 画像数 7

製品の概要

製品名	Anti-IGF1 Receptor antibody [EPR23027-204]
製品の詳細	Rabbit monoclonal [EPR23027-204] to IGF1 Receptor
由来種	Rabbit
アプリケーション	**適用あり:** WB, IHC-P **適用なし:** Flow Cyt,ICC/IF or IP
種交差性	**交差種:** Human
免疫原	Recombinant fragment. This information is proprietary to Abcam and/or its suppliers.
ポジティブ・コントロール	WB: A431, HepG2, HeLa and MDA-MB-231 lysates. IHC-P: Human breast carcinoma, Human prostatic hyperplasia and Human bladder carcinoma tissues.
特記事項	This product is a recombinant monoclonal antibody, which offers several advantages including: - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production For more information **see here**. Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to **RabMAb® patents**.

製品の特性

製品の状態	Liquid
保存方法	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
バッファー	pH: 7.2 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
精製度	Protein A purified
ポリ/モノ	モノクローナル
クローン名	EPR23027-204

アイソタイプ 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ab263903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
WB		1/1000. Detects a band of approximately 130, 200 kDa (predicted molecular weight: 154 kDa).
IHC-P		1/500. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

追加情報 Is unsuitable for Flow Cyt,ICC/IF or IP.

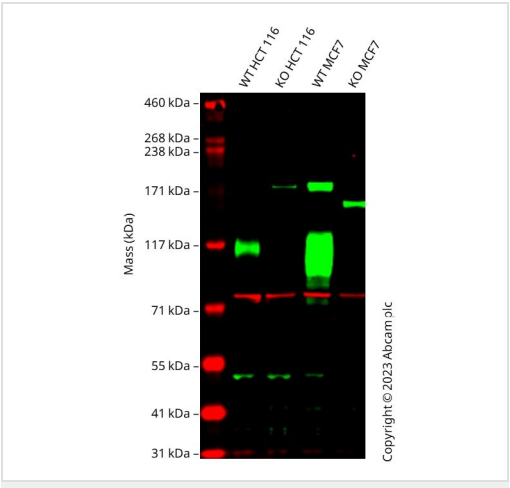
ターゲット情報

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 IGFIR 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 [EPR23027-204] (ab263903)

All lanes : Anti-IGF1 Receptor antibody [EPR23027-204] (ab263903) at 1/1000 dilution

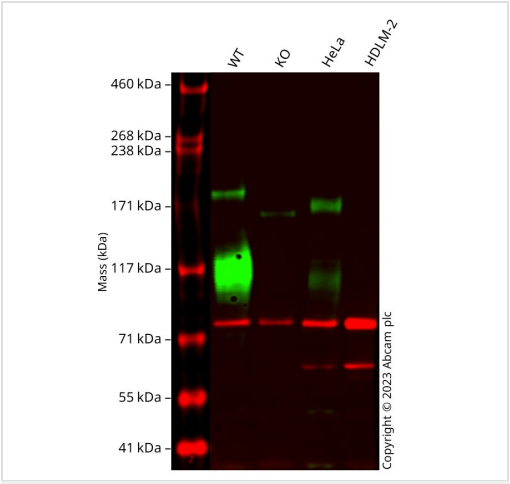
Lane 1 : Wild-type HCT 116 cell lysate
Lane 2 : IGF1R knockout HCT 116 cell lysate
Lane 3 : Wild-type MCF7 **ab290784** cell lysate
Lane 4 : IGF1R knockout MCF7 **ab287507** cell lysate

Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 154 kDa
Observed band size: 105 kDa

Anti-IGF1R antibody [EPR23027-204] (ab263903) staining at 1/1000 dilution, shown in green; Mouse anti-CANX [CANX/1543] (**ab238078**) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab263903 was shown to bind specifically to IGF1R. A band was observed at 105 kDa in wild-type HCT 116 cell lysates with no signal observed at this size in IGF1R knockout cell line. To generate this image, wild-type and IGF1R knockout HCT 116 cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were blocked in fluorescent western blot (TBS-based) blocking solution before incubation with primary antibodies overnight at 4 °C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L 800CW and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution.



Western blot - Anti-IGF1 Receptor antibody [EPR23027-204] (ab263903)

All lanes : Anti-IGF1 Receptor antibody [EPR23027-204] (ab263903) at 1/1000 dilution

Lane 1 : Wild-type MCF7 cell lysate
Lane 2 : IGF1R knockout MCF7 cell lysate
Lane 3 : HeLa cell lysate
Lane 4 : HDLM-2 cell lysate

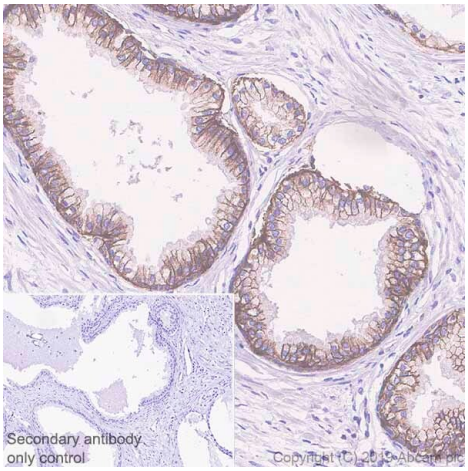
Lysates/proteins at 20 µg per lane.

Performed under reducing conditions.

Predicted band size: 154 kDa
Observed band size: 105-125 kDa

False colour image of Western blot: Anti-IGF1 Receptor antibody [EPR23027-204] staining at 1/1000 dilution, shown in green; Mouse anti-CANX [CANX/1543] (**ab238078**) loading control staining at 1/20000 dilution, shown in red. In Western blot, ab263903 was shown to bind specifically to IGF1 Receptor. A band was observed at 105-125 kDa (alpha chain) in wild-type MCF7 cell lysates with no signal observed at this size in IGF1R knockout cell line. To generate this image, wild-type and IGF1R knockout MCF7 cell lysates were analysed. First, samples were run on an SDS-PAGE gel then transferred onto a nitrocellulose membrane. Membranes were

blocked in fluorescent western blot (TBS-based) blocking solution before incubation with primary antibodies overnight at 4°C. Blots were washed four times in TBS-T, incubated with secondary antibodies for 1 h at room temperature, washed again four times then imaged. Secondary antibodies used were Goat anti-Rabbit IgG H&L 800CW and Goat anti-Mouse IgG H&L 680RD at 1/20000 dilution.

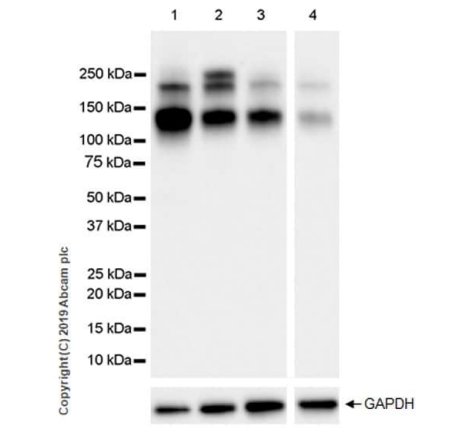


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IGF1 Receptor antibody [EPR23027-204] (ab263903)

Immunohistochemical analysis of paraffin-embedded Human prostatic hyperplasia tissue labeling IGF1 Receptor with ab263903 at 1/500 dilution (1.24 ug/ml) followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP Polymer). Membranous and cytoplasmic staining on human prostatic hyperplasia (PMID: 20710042). The section was incubated with ab263903 for 30 mins at RT. The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP Polymer).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.



Western blot - Anti-IGF1 Receptor antibody [EPR23027-204] (ab263903)

All lanes : Anti-IGF1 Receptor antibody [EPR23027-204] (ab263903) at 1/1000 dilution

Lane 1 : A431 (human epidermoid carcinoma epithelial cell) whole cell lysate
Lane 2 : HepG2 (human hepatocellular carcinoma epithelial cell) whole cell lysate
Lane 3 : HeLa (human cervix adenocarcinoma epithelial cell) whole cell lysate
Lane 4 : MDA-MB-231 (human breast adenocarcinoma epithelial cell) whole cell lysate

Lysates/proteins at 20 µg per lane.

Secondary
All lanes : Rabbit polyclonal to GNAT2 (**ab97501**) at 1/100000 dilution

Predicted band size: 154 kDa
Observed band size: 130,200 kDa

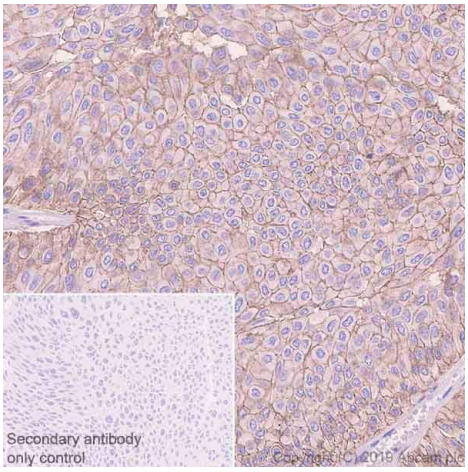
Blocking and dilution buffer: 5% NFDM/TBST.

Exposure time: 10 seconds.

The expression profile & molecular weight observed is consistent with what has been described in the literature (PMID: 21807868, 28591735).

Note: the bands larger than 200kDa are Pro-IGF1R

Low expression cell line: MDA-MB-231 (PMID: 28591735).

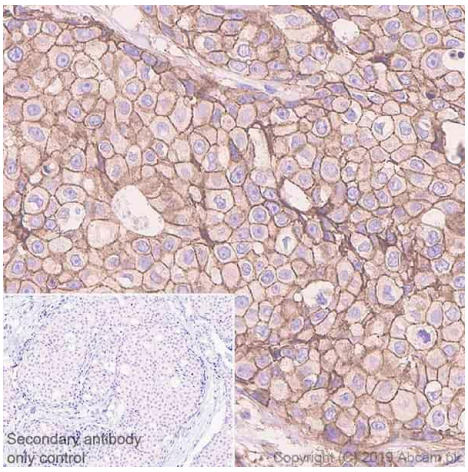


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IGF1 Receptor antibody [EPR23027-204] (ab263903)

Immunohistochemical analysis of paraffin-embedded Human bladder carcinoma tissue labeling IGF1 Receptor with ab263903 at 1/500 dilution (1.24 ug/ml) followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP Polymer). Membranous and cytoplasmic staining on human bladder carcinoma (PMID: 20710042). The section was incubated with ab263903 for 30 mins at RT. The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP Polymer).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.

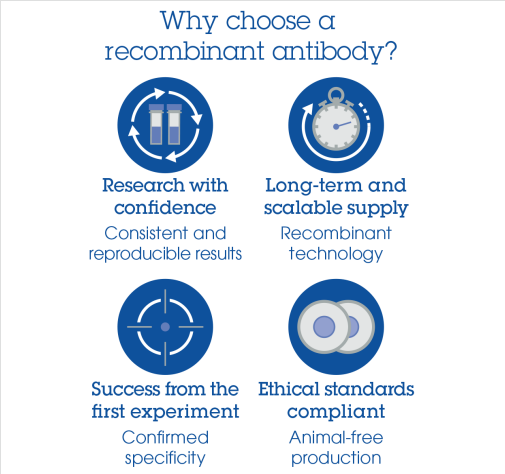


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-IGF1 Receptor antibody [EPR23027-204] (ab263903)

Immunohistochemical analysis of paraffin-embedded Human breast carcinoma tissue labeling IGF1 Receptor with ab263903 at 1/500 dilution (1.24 ug/ml) followed by a ready to use Goat Anti-Rabbit IgG H&L (HRP Polymer). Membranous and cytoplasmic staining on human breast carcinoma (PMID: 21057462). The section was incubated with ab263903 for 30 mins at RT. The immunostaining staining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with Hematoxylin.

Secondary antibody only control: Secondary antibody is a ready to use Goat Anti-Rabbit IgG H&L (HRP Polymer).

Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20 mins.



Anti-IGF1 Receptor antibody [EPR23027-204]

(ab263903)

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