abcam

Product datasheet

Anti-AKT1 (phospho S124) antibody [EPR17680] ab183556

リコンビナント RabMAb

4 References 画像数 8

製品の概要

製品名	Anti-AKT1 (phospho S124) antibody [EPR17680]
製品の詳細	Rabbit monoclonal [EPR17680] to AKT1 (phospho S124)
由来種	Rabbit
アプリケーション	**適用あり:** ELISA, WB, IP, Dot blot
種交差性	**交差種:** Mouse, Rat, Human
免疫原	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
ポジティブ・コントロール	WB: MCF7, NIH/3T3, C6, RAW264.7 and PC12 whole cell lysates; Human fetal brain and fetal kidney lysates; mouse brain lysate; and rat brain and heart lysates. IP: MCF7 whole cell lysates. ELISA: AKT1 pS124 peptide.
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: 59% 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	EPR17680

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ab183556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
ELISA		1/1700.
WB		1/1000. Detects a band of approximately 56 kDa (predicted molecular weight: 56 kDa).
IP		1/100.
Dot blot		Use at an assay dependent concentration.

ターゲット情報

機能 Plays a role as a key modulator of the AKT-mTOR signaling pathway controlling the tempo of the process of newborn neurons integration during adult neurogenesis, including correct neuron positioning, dendritic development and synapse formation (By similarity). General protein kinase capable of phosphorylating several known proteins. Phosphorylates TBC1D4. Signals downstream of phosphatidylinositol 3-kinase (PI(3)K) to mediate the effects of various growth factors such as platelet-derived growth factor (PDGF), epidermal growth factor (EGF), insulin and insulin-like growth factor I (IGF-I). Plays a role in glucose transport by mediating insulin-induced translocation of the GLUT4 glucose transporter to the cell surface. Mediates the antiapoptotic effects of IGF-I. Mediates insulin-stimulated protein synthesis by phosphorylating TSC2 at 'Ser-939' and 'Thr-1462', thereby activating mTORC1 signaling and leading to both phosphorylation of 4E-BP1 and in activation of RPS6KB1. Promotes glycogen synthesis by mediating the insulin-induced activation of glycogen synthase. The activated form can suppress FoxO gene transcription and promote cell cycle progression. Essential for the SPATA13-mediated regulation of cell migration and adhesion assembly and disassembly.

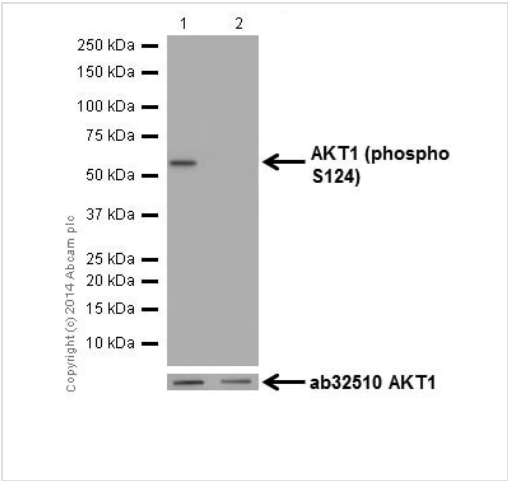
組織特異性 Expressed in all human cell types so far analyzed. The Tyr-176 phosphorylated form shows a significant increase in expression in breast cancers during the progressive stages i.e. normal to hyperplasia (ADH), ductal carcinoma in situ (DCIS), invasive ductal carcinoma (IDC) and lymph node metastatic (LNMM) stages.

関連疾患 Defects in AKT1 are a cause of susceptibility to breast cancer (BC) [MIM:114480]. A common malignancy originating from breast epithelial tissue. Breast neoplasms can be distinguished by their histologic pattern. Invasive ductal carcinoma is by far the most common type. Breast cancer is etiologically and genetically heterogeneous. Important genetic factors have been indicated by familial occurrence and bilateral involvement. Mutations at more than one locus can be involved in different families or even in the same case.
Defects in AKT1 are associated with colorectal cancer (CRC) [MIM:114500].
Defects in AKT1 are associated with susceptibility to ovarian cancer [MIM:604370]; also called susceptibility to familial breast-ovarian cancer type 1 (BROVCA1).

配列類似性 Belongs to the protein kinase superfamily. AGC Ser/Thr protein kinase family. RAC subfamily.

	Contains 1 AGC-kinase C-terminal domain. Contains 1 PH domain. Contains 1 protein kinase domain.
ドメイン	Binding of the PH domain to the phosphatidylinositol 3-kinase alpha (PI(3)K) results in its targeting to the plasma membrane. The PH domain mediates interaction with TNK2 and Tyr-176 is also essential for this interaction. The AGC-kinase C-terminal mediates interaction with THEM4.
翻訳後修飾	Phosphorylation on Thr-308, Ser-473 and Tyr-474 is required for full activity. Activated TNK2 phosphorylates it on Tyr-176 resulting in its binding to the anionic plasma membrane phospholipid PA. This phosphorylated form localizes to the cell membrane, where it is targeted by PDPK1 and PDPK2 for further phosphorylations on Thr-308 and Ser-473 leading to its activation. Ser-473 phosphorylation by mTORC2 favors Thr-308 phosphorylation by PDPK1. Ser-473 phosphorylation is enhanced by interaction with AGAP2 isoform 2 (PIKE-A). Ser-473 phosphorylation is enhanced in focal cortical dysplasias with Taylor-type balloon cells. Ubiquitinated; undergoes both 'Lys-48'- and 'Lys-63'-linked polyubiquitination. TRAF6-induced 'Lys-63'-linked AKT1 ubiquitination is critical for phosphorylation and activation. When ubiquitinated, it translocates to the plasma membrane, where it becomes phosphorylated. When fully phosphorylated and translocated into the nucleus, undergoes 'Lys-48'-polyubiquitination catalyzed by TTC3, leading to its degradation by the proteasome.
細胞内局在	Cytoplasm. Nucleus. Cell membrane. Nucleus after activation by integrin-linked protein kinase 1 (ILK1). Nuclear translocation is enhanced by interaction with TCL1A. Phosphorylation on Tyr-176 by TNK2 results in its localization to the cell membrane where it is targeted for further phosphorylations on Thr-308 and Ser-473 leading to its activation and the activated form translocates to the nucleus.

画像



Western blot - Anti-AKT1 (phospho S124) antibody [EPR17680] (ab183556)

All lanes : Anti-AKT1 (phospho S124) antibody [EPR17680] (ab183556) at 1/1000 dilution

Lane 1 : MCF7 (Human breast adenocarcinoma cell line) whole cell lysate, untreated
Lane 2 : MCF7 whole cell lysate, treated with Alkaline Phosphatase

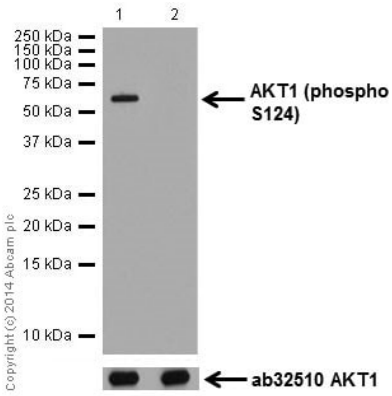
Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/1000 dilution

Predicted band size: 56 kDa
Observed band size: 56 kDa

Exposure time: 15 seconds

5% NFDM/TBST: Blocking and diluting buffer.



Western blot - Anti-AKT1 (phospho S124) antibody [EPR17680] (ab183556)

All lanes : Anti-AKT1 (phospho S124) antibody [EPR17680] (ab183556) at 1/10000 dilution

Lane 1 : NIH/3T3 (Mouse embyro fibroblast cells) whole cell lysate, untreated
Lane 2 : NIH/3T3 whole cell lysate, treated with Alkaline Phosphatase

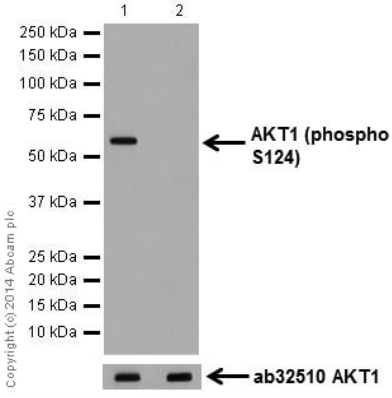
Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/1000 dilution

Predicted band size: 56 kDa
Observed band size: 56 kDa

Exposure time: 3 minutes

5% NFDM/TBST: Blocking and diluting buffer.



Western blot - Anti-AKT1 (phospho S124) antibody [EPR17680] (ab183556)

All lanes : Anti-AKT1 (phospho S124) antibody [EPR17680] (ab183556) at 1/10000 dilution

Lane 1 : C6 (Rat glial tumor cells) whole cell lysate, untreated
Lane 2 : C6 whole cell lysate, treated with Alkaline Phosphatase

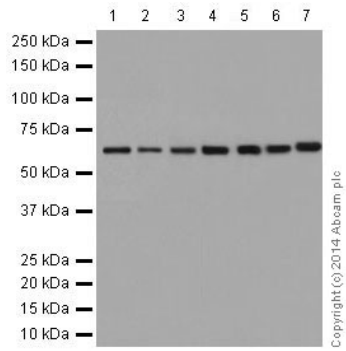
Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Goat anti-rabbit IgG, (H+L), peroxidase conjugated at 1/1000 dilution

Predicted band size: 56 kDa
Observed band size: 56 kDa

Exposure time: 3 minutes

5% NFDM/TBST: Blocking and diluting buffer.



Western blot - Anti-AKT1 (phospho S124) antibody [EPR17680] (ab183556)

All lanes : Anti-AKT1 (phospho S124) antibody [EPR17680] (ab183556) at 1/1000 dilution

Lane 1 : Human fetal brain tissue lysate
Lane 2 : Human fetal kidney tissue lysate
Lane 3 : Mouse brain tissue lysate
Lane 4 : Rat brain tissue lysate
Lane 5 : Rat heart tissue lysate
Lane 6 : RAW 264.7 (Mouse macrophage cells transformed with Abelson murine leukemia virus) whole cell lysate
Lane 7 : PC-12 (Rat adrenal gland pheochromocytoma) whole cell lysate

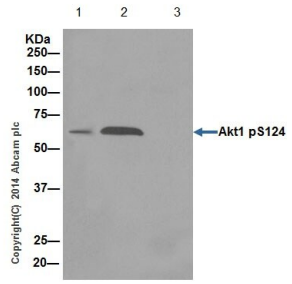
Lysates/proteins at 10 µg per lane.

Secondary
All lanes : Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1000 dilution

Predicted band size: 56 kDa
Observed band size: 56 kDa

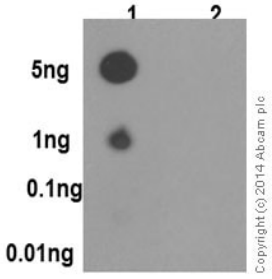
Exposure time: 3 minutes

5% NFDM/TBST: Blocking and diluting buffer.



Immunoprecipitation - Anti-AKT1 (phospho S124) antibody [EPR17680] (ab183556)

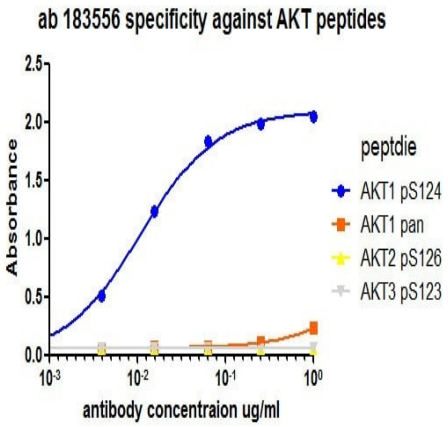
Immunoprecipitation of AKT1 from 1mg of MCF7 (Human breast adenocarcinoma cell line) whole cell lysate achieved using ab183556 at 1/100 dilution.
Lane 1: Input: 10µg of MCF7 whole cell lysate.
Lane 2: MCF7 whole cell lysate following IP with ab183556.
Lane 3: negative control: IP using Rabbit monoclonal IgG (**ab172730**) instead of ab183556 in MCF7 whole cell lysate.
Western blot was performed using ab183556 at 1/1000 dilution.
An Anti-Rabbit IgG (HRP), specific to the non-reduced form of IgG at 1/1500 was used as secondary antibody.
Blocking and dilution buffer and concentration: 5% NFDM/TBST. 10 second exposure.



Dot Blot - Anti-AKT1 (phospho S124) antibody [EPR17680] (ab183556)

Dot blot analysis of AKT1 (phospho S124) labeled with ab183556 at 1/1000 dilution.
Lane 1: phospho peptide
Lane 2: non phospho peptide
Goat Anti-Rabbit IgG, (H+L),Peroxidase conjugated at 1/1000 was used as secondary antibody.
Exposure time: 3 minutes.

Blocking and Diluting buffer buffer and concentration: 5% NFDM/TBST



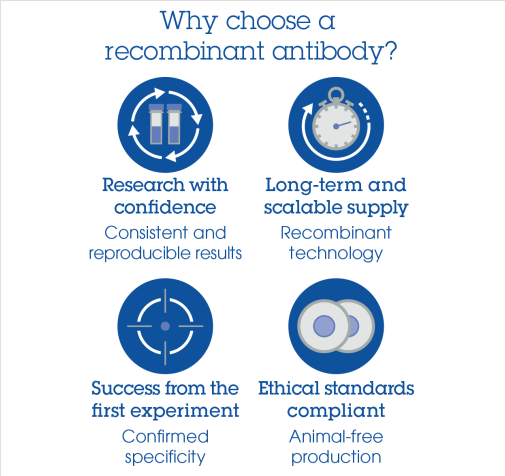
ELISA - Anti-AKT1 (phospho S124) antibody [EPR17680] (ab183556)

ELISA image showing specificity of ab183556 to AKT1 (phospho S124) peptide only.

Peptides concentration: 1000 ng/ml.

ab183556 working dilution: 1/1700.

Secondary antibody: Alkaline Phosphatase-conjugated AffiniPure Goat Anti-Rabbit IgG (H+L) at 1/2500.



Anti-AKT1 (phospho S124) antibody [EPR17680]

(ab183556)

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