abcam

Product datasheet

Anti-pan-AKT (phospho T308) antibody ab8933

59 References 8 图像

概述

产品名称	Anti-pan-AKT (phospho T308)**抗体**
描述	**兔多克隆抗体**to pan-AKT (phospho T308)
宿主	Rabbit
特异性	This antibody was made against a peptide directed against the phosphorylated form of AKT1 at T308, but due to a high degree of homology it is predicted to cross react with AKT2 and AKT3 if they are phosphorylated at the corresponding residue. Weak cross reactivity with AKT2.
经测试应用	**适用于:** IHC-P, WB, Dot blot
种属反应性	**与反应:** Human, Recombinant fragment **预测可用于:** Mouse, Rat
免疫原	Synthetic peptide. This information is proprietary to Abcam and/or its suppliers.
阳性对照	IHC-P: Human lung, testis and breast tissue. WB: Human spleen, small intestine, placenta, skeletal muscle, lung, tonsil and thymus tissue lysate. GST-tagged AKT1 recombinant protein. AKT1 and AKT3 recombinant protein.
常规说明	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. 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&As

性能

形式	Liquid
存放说明	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
存储溶液	Preservative: 0.01% Sodium azide Constituents: 0.42% Potassium phosphate, 0.87% Sodium chloride
纯度	Immunogen affinity purified
纯化说明	This product was prepared from monospecific antiserum by immunoaffinity chromatography using phospho peptide coupled to agarose beads followed by solid phase adsorption(s) against non-

phospho peptide and non-specific peptide to remove any unwanted reactivities. Assay by immunoelectrophoresis resulted in a single precipitin arc against anti-Rabbit Serum.

克隆 多克隆

同种型 IgG

应用

The Abpromise guarantee Abpromise™承诺保证使用ab8933于以下的经测试应用

"应用说明"部分 下显示的仅为推荐的起始稀释度;实际最佳的稀释度/浓度应由使用者检定。

应用	Ab评论	说明
IHC-P		Use a concentration of 4 µg/ml. Perform heat mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.
WB		1/500 - 1/1000. Predicted molecular weight: 56 kDa.
Dot blot		Use a concentration of 5 µg/ml.

靶标

功能 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.

组织特异性 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.

疾病相关 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).

序列相似性

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.

结构域

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.

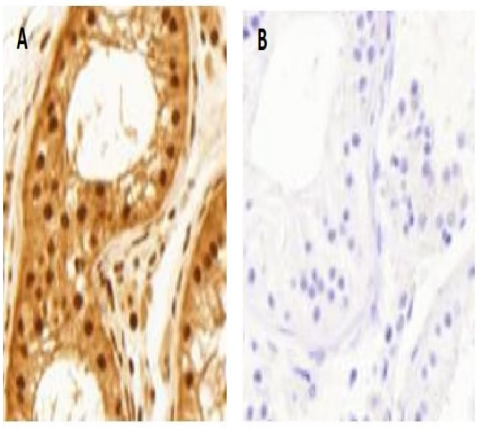
翻译后修饰

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.

细胞定位

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.

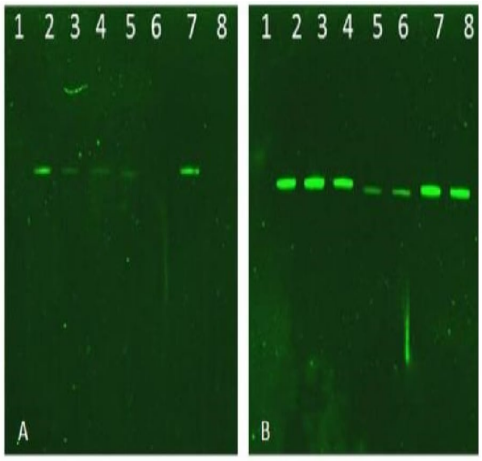
图片



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-pan-AKT (phospho T308) antibody (ab8933)

Panel A: ab8933 (1/200 dilution, 30mins at RT) staining AKT (phospho T308) in human testis tissue in immunohistochemical analysis. Secondary used was an anti-Rabbit polyclonal HRP conjugate (Ready to use) DAB staining. Heat induced antigen retrieval was performed using Leica Bond Epitope Retrieval Bu□er 1 (Citrate solution, pH6.0) for 20 minutes (ER1(20)). Counterstain is hemotoxylin.

Panel B: Secondary antibody only.



Western blot - Anti-pan-AKT (phospho T308) antibody (ab8933)

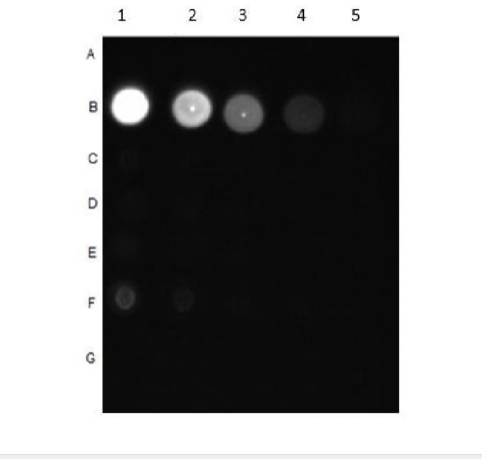
All lanes : Anti-pan-AKT (phospho T308) antibody (ab8933) at 1/2270 dilution

Lane 1 : MW Protein ladder
Lane 2 : Recombinant AKT1 protein, 50ng
Lane 3 : Recombinant AKT1 protein, 50ng (phosphatase treated)
Lane 4 : Recombinant AKT1 T308A/S473A mutant protein, 50ng
Lane 5 : Recombinant AKT2 protein, 50ng
Lane 6 : Recombinant AKT2 protein, 50ng (phosphatase treated)
Lane 7 : Recombinant AKT3 protein, 50ng
Lane 8 : Recombinant AKT3 protein, 50ng (phosphatase treated)

Predicted band size: 56 kDa

Blot A: ab8933 used at 1/2270.

Blot B: Anti-Akt used 1/1000.



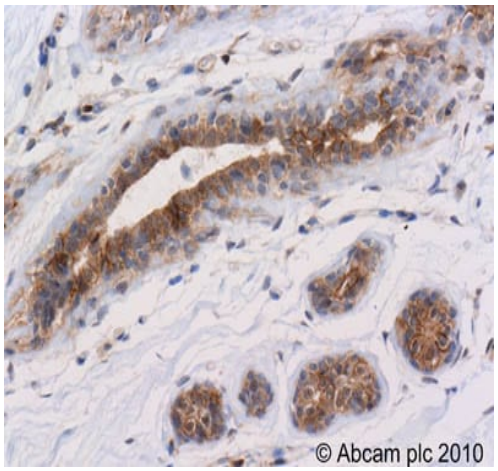
Dot Blot - Anti-pan-AKT (phospho T308) antibody (ab8933)

Dot Blot - Anti-pan-AKT (phospho T308) antibody (ab8933, 5 µg/ml).

Secondary antibody is an anti-rabbit IgG HRP used at a 1/70,000 dilution.

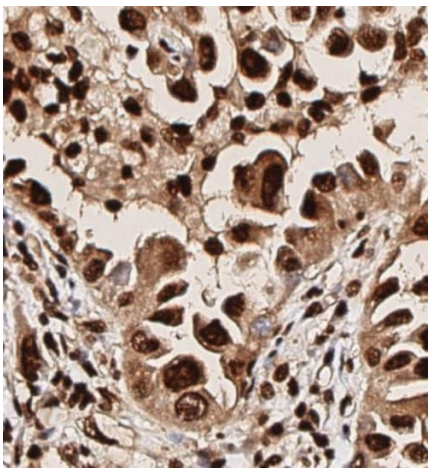
Exposure time 60 secs.

Columns 1 – 5, Left to Right 100, 33.33, 11.11, 3.70, 1.23 ng
Row A: AKT1-BSA peptide
Row B: AKT1 pT308 – BSA peptide
Row C: AKT1 S473 – BSA peptide
Row D: AKT1 pS473 – BSA peptide
Row E: CDC27 T244 -BSA peptide
Row F: CDC27 pT244 – BSA peptide
Row G: BSA control



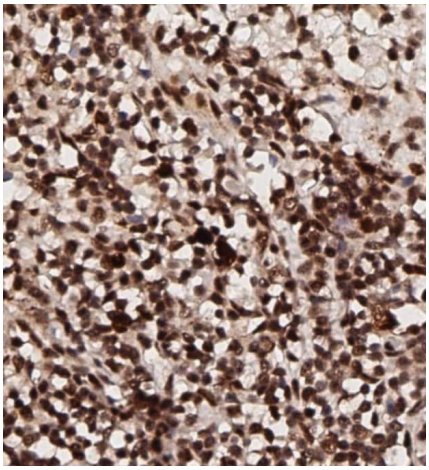
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-pan-AKT (phospho T308) antibody (ab8933)

ab8933 (4µg/ml) staining AKT (phospho T308) in human breast using an automated system (DAKO Autostainer Plus). Using this protocol there is strong staining of membrane and cytoplasmic compartment within the breast ductal regions.
Sections were rehydrated and antigen retrieved with the Dako 3 in 1 AR buffer EDTA pH 9.0 in a DAKO PT link. Slides were peroxidase blocked in 3% H2O2 in methanol for 10 mins. They were then blocked with Dako Protein block for 10 minutes (containing casein 0.25% in PBS) then incubated with primary antibody for 20 min and detected with Dako envision flex amplification kit for 30 minutes. Colorimetric detection was completed with Diaminobenzidine for 5 minutes. Slides were counterstained with Haematoxylin and coverslipped under DePeX. Please note that, for manual staining, optimization of primary antibody concentration and incubation time is recommended. Signal amplification may be required.



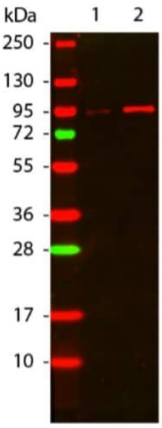
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-pan-AKT (phospho T308) antibody (ab8933)

ab8933 (1/200 dilution, 30mins at RT) staining AKT (phospho T308) in human lung tissue in immunohistochemical analysis. Secondary used was an anti-Rabbit polyclonal HRP conjugate (Ready to use, 8mins at RT) DAB staining. HIER using citrate buffer for 20mins. Counterstain is hemotoxylin.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-pan-AKT (phospho T308) antibody (ab8933)

ab8933 (1/200 dilution, 30mins at RT) staining AKT (phospho T308) in human lymph node in breast tissue in immunohistochemical analysis. Secondary used was an anti-Rabbit polyclonal HRP conjugate (Ready to use, 8mins at RT) DAB staining. HIER using citrate buffer for 20mins. Counterstain is hemotoxylin.



Western blot - Anti-pan-AKT (phospho T308) antibody (ab8933)

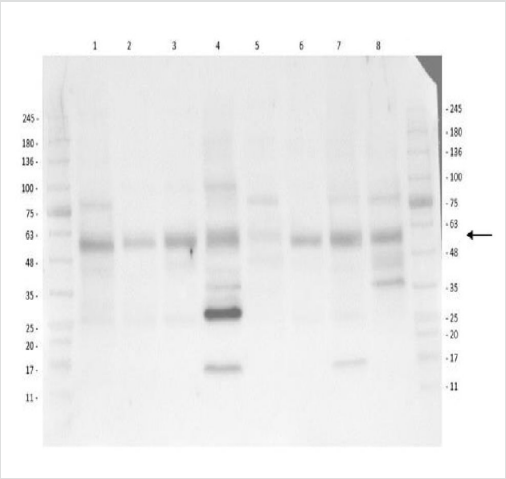
All lanes : Anti-pan-AKT (phospho T308) antibody (ab8933) at 1/1000 dilution (overnight at 4degC)

Lane 1 : GST-tagged AKT1 recombinant protein, 50ng
Lane 2 : GST-tagged AKT1 active recombinant protein, 50ng

Secondary
All lanes : DyLight™ 649 rabbit secondary antibody, (30mins at RT) at 1/20000 dilution

Predicted band size: 56 kDa

Recombinant protein expected to run ~80-100 kDa.



Western blot - Anti-pan-AKT (phospho T308) antibody (ab8933)

All lanes : Anti-pan-AKT (phospho T308) antibody (ab8933) at 1/1000 dilution

Lane 1 : Human spleen whole tissue lysate
Lane 2 : Human small intestine whole tissue lysate
Lane 3 : Human placenta whole tissue lysate
Lane 4 : Human skeletal muscle whole tissue lysate
Lane 5 : Human brain cerebellum whole tissue lysate
Lane 6 : Human lung whole tissue lysate
Lane 7 : Human tonsil whole tissue lysate
Lane 8 : Human thymus whole tissue lysate

Secondary
All lanes : Goat anti-Rabbit Ig HRP at 1/40000 dilution

Predicted band size: 56 kDa

Exposure time: 8 seconds

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