

Product datasheet

Anti-AKT1 (phospho T308) antibody [18F3.H11] ab105731

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概述

<b>产品名称</b>	Anti-AKT1 (phospho T308)抗体[18F3.H11]
<b>描述</b>	小鼠单克隆抗体[18F3.H11] to AKT1 (phospho T308)
<b>宿主</b>	Mouse
<b>特异性</b>	Specific for AKT protein phosphorylated at T308. A BLAST analysis was used to suggest cross-reactivity with AKT pT308 from most vertebrate species sources based on 100% homology with the immunizing sequence. Cross-reactivity with AKT from other sources has not been determined. Cross-reactivity with AKT2 and AKT3 will likely occur.
<b>经测试应用</b>	<b>适用于:</b> IP, WB, ELISA, IHC-P
<b>种属反应性</b>	<b>与反应:</b> Mouse, Human <b>预测可用于:</b> Vertebrata ▲
<b>免疫原</b>	Synthetic peptide corresponding to residues surrounding the internal sequence amino acid T308 of Human AKT1 protein.
<b>阳性对照</b>	PDGF stimulated NIH/3T3 cell lysates; Human brain cerebellum tissue

性能

<b>形式</b>	Liquid
<b>存放说明</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term.
<b>存储溶液</b>	pH: 7.20 Preservative: 0.01% Sodium azide Constituents: 0.42% Potassium phosphate, 0.88% Sodium chloride
<b>纯度</b>	Protein A purified
<b>纯化说明</b>	Purified from concentrated tissue culture supernate.
<b>克隆</b>	单克隆
<b>克隆编号</b>	18F3.H11
<b>同种型</b>	IgG1

应用

Our [Abpromise guarantee](#) covers the use of **ab105731** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

应用	Ab评论	说明
IP		Use at an assay dependent concentration.
WB		1/500 - 1/3000. Predicted molecular weight: 55 kDa.
ELISA		1/20000.
IHC-P		Use a concentration of 20 µg/ml.

## 靶标

<b>功能</b>	<p>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.</p>
<b>组织特异性</b>	<p>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.</p>
<b>疾病相关</b>	<p>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.</p> <p>Defects in AKT1 are associated with colorectal cancer (CRC) [MIM:114500].</p> <p>Defects in AKT1 are associated with susceptibility to ovarian cancer [MIM:604370]; also called susceptibility to familial breast-ovarian cancer type 1 (BROVCA1).</p>
<b>序列相似性</b>	<p>Belongs to the protein kinase superfamily. AGC Ser/Thr protein kinase family. RAC subfamily. Contains 1 AGC-kinase C-terminal domain.</p> <p>Contains 1 PH domain.</p> <p>Contains 1 protein kinase domain.</p>
<b>结构域</b>	<p>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.</p>

The AGC-kinase C-terminal mediates interaction with THEM4.

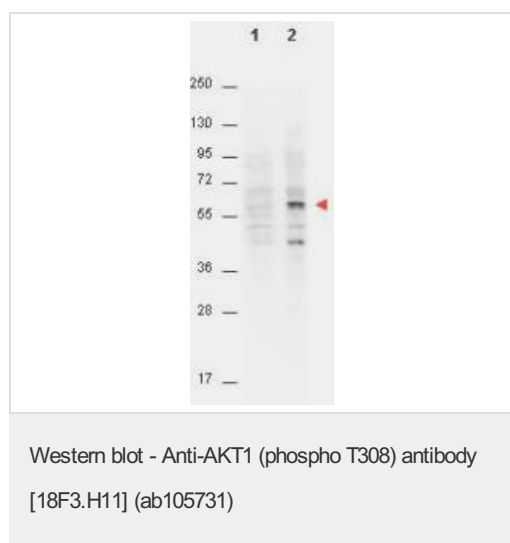
## 翻译后修饰

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



**All lanes :** Anti-AKT1 (phospho T308) antibody [18F3.H11] (ab105731) at 1/4000 dilution

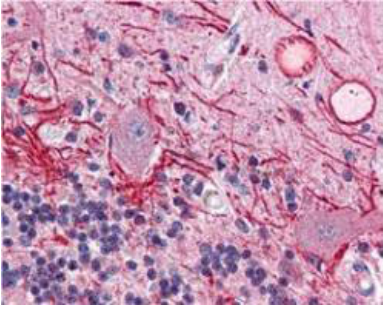
**Lane 1 :** Unstimulated NIH/3T3 cell lysates

**Lane 2 :** PDGF stimulated NIH/3T3 cell lysates

Lysates/proteins at 15  $\mu$ g per lane.

**Predicted band size:** 55 kDa

Gel concentration: 4-20%



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-AKT1 (phospho T308) antibody [18F3.H11] (ab105731)

ab105731, at 20 µg/ml, staining AKT1 (phospho T308) in formalin fixed, paraffin embedded Human brain cerebellum tissue (40X) by Immunohistochemistry.

The image shows strong staining of Purkinje neurons and cell processes in the cerebellum. Staining was both cytosolic as well as occasionally nuclear, and ab105731 showed minimal background staining. The image shows the localization of antibody as the precipitated red signal, with a hematoxylin purple nuclear counterstain.

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