

Datasheet for ABIN349614  
**anti-AKT1 antibody (pSer473)**



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## Overview

Quantity:	100 µg
Target:	AKT1
Binding Specificity:	pSer473
Reactivity:	Human
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This AKT1 antibody is un-conjugated
Application:	Western Blotting (WB), ELISA, Immunohistochemistry (IHC)

## Product Details

Immunogen:	Anti-AKT pS473 (MOUSE) Monoclonal Antibody was produced by repeated immunizations with a synthetic peptide corresponding to residues surrounding S473 of human AKT1 protein.
Clone:	17F6-B11
Isotype:	IgG1
Cross-Reactivity:	Mouse (Murine), Rat (Rattus), Monkey
Characteristics:	Concentration Definition: by UV absorbance at 280 nm

## Target Details

Target:	AKT1
Alternative Name:	Akt ( <a href="#">AKT1 Products</a> )

## Target Details

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**Background:** Phospho AKT antibody is suitable for ELISA, immunohistochemistry, immunoprecipitation and western blotting. AKT phospho 473 is a component of the PI-3 kinase pathway and is activated by phosphorylation at Ser 473 and Thr 308. AKT is a cytoplasmic protein also known as AKT1, Protein Kinase B (PKB) and rac (related to A and C kinases). AKT is a key regulator of many signal transduction pathways. AKT Exhibits tight control over cell proliferation and cell viability. Overexpression or inappropriate activation of AKT is noted in many types of cancer. AKT mediates many of the downstream events of PI 3-kinase (a lipid kinase activated by growth factors, cytokines and insulin). PI 3-kinase recruits AKT to the membrane, where it is activated by PDK1 phosphorylation. Once phosphorylated, AKT dissociates from the membrane and phosphorylates targets in the cytoplasm and the cell nucleus. AKT has two main roles: (i) inhibition of apoptosis; (ii) promotion of proliferation. Anti-AKT pS473 (MOUSE) Monoclonal Antibody is ideal for investigators involved in Cell Signaling, Cancer, Neuroscience, Signal Transduction research.

Synonyms: phospho AKT, RAC-PK-alpha, Protein kinase B, PKB, C-AKT, RAC-alpha serine/threonine-protein kinase, Proto-oncogene c-Akt, AKT1, AKT 1, AKT-1

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**Gene ID:** 207, 62241011

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**UniProt:** [P31749](#)

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**Pathways:** [PI3K-Akt Signaling](#), [RTK Signaling](#), [TCR Signaling](#), [AMPK Signaling](#), [Interferon-gamma Pathway](#), [TLR Signaling](#), [Fc-epsilon Receptor Signaling Pathway](#), [EGFR Signaling Pathway](#), [Neurotrophin Signaling Pathway](#), [Response to Water Deprivation](#), [Regulation of Actin Filament Polymerization](#), [Carbohydrate Homeostasis](#), [Glycosaminoglycan Metabolic Process](#), [Cellular Glucan Metabolic Process](#), [Regulation of Muscle Cell Differentiation](#), [Cell-Cell Junction Organization](#), [Regulation of Cell Size](#), [Skeletal Muscle Fiber Development](#), [Regulation of Carbohydrate Metabolic Process](#), [Hepatitis C](#), [Protein targeting to Nucleus](#), [CXCR4-mediated Signaling Events](#), [Signaling Events mediated by VEGFR1 and VEGFR2](#), [Negative Regulation of intrinsic apoptotic Signaling](#), [Thromboxane A2 Receptor Signaling](#), [Signaling of Hepatocyte Growth Factor Receptor](#), [Positive Regulation of fat Cell Differentiation](#), [VEGFR1 Specific Signals](#), [VEGF Signaling](#), [Warburg Effect](#)

## Application Details

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**Application Notes:** Expect a band approximately 56 kDa in size corresponding to phosphorylated AKT protein by western blotting in the appropriate cell lysate or extract. This phospho-specific monoclonal antibody reacts with human and mouse AKT pS473 and shows minimal reactivity by ELISA against the non-phosphorylated form of the immunizing peptide. Specific conditions for reactivity should be optimized by the end user. For immunohistochemistry use formalin-fixed

## Application Details

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paraffin-embedded sections. No pre-treatment of sample is required.

**Protocol:** This monoclonal antibody is suitable for ELISA, immunohistochemistry, immunoprecipitation and western blotting. Expect a band approximately 56 kDa in size corresponding to phosphorylated AKT protein by western blotting in the appropriate cell lysate or extract. This phospho-specific monoclonal antibody reacts with human and mouse AKT pS473 and shows minimal reactivity by ELISA against the non-phosphorylated form of the immunizing peptide. Specific conditions for reactivity should be optimized by the end user. For immunohistochemistry use formalin-fixed paraffinembedded sections. No pre-treatment of sample is required. ELISA 1:20,000; WESTERN BLOT 1:500 - 1:3,000; IMMUNOHISTOCHEMISTRY 20 µg/ml; OTHER APPLICATIONS User Optimized

**Restrictions:** For Research Use only

## Handling

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**Format:** Liquid

**Concentration:** 1.02 mg/mL

**Buffer:** 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2

**Preservative:** Sodium azide

**Precaution of Use:** This product contains sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

**Storage:** -20 °C

## Publications

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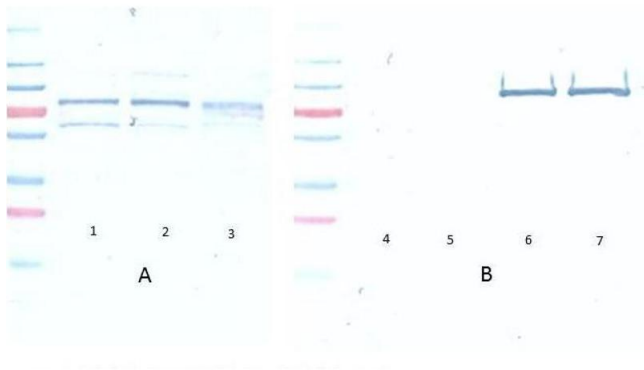
**Product cited in:** Maerz, Burkhalter, Schilpp, Wittekindt, Frick, Philipp: "Pharmacological cholesterol depletion disturbs ciliogenesis and ciliary function in developing zebrafish." in: **Communications biology**, Vol. 2, pp. 31, (2019) ([PubMed](#)).

Sha, Thompson, South, Baron, Leask: "Loss of PPAR $\gamma$  expression by fibroblasts enhances dermal wound closure." in: **Fibrogenesis & tissue repair**, Vol. 5, pp. 5, (2012) ([PubMed](#)).

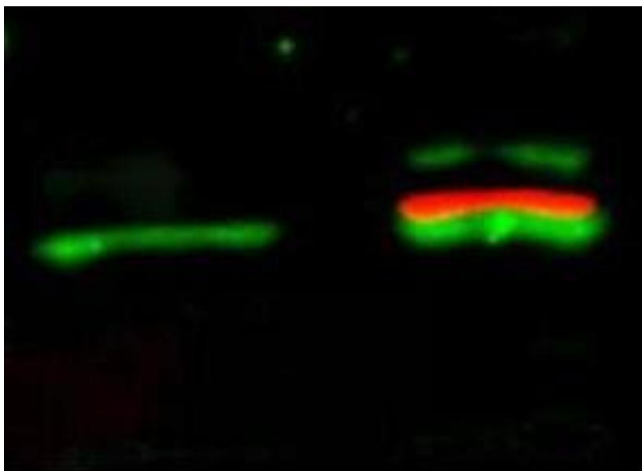
Ito, Nishibori, Ito, Takagi, Akimoto, Kudo, Asanuma, Sai, Miyamoto, Takenaka, Yan: "mTORC1 activation triggers the unfolded protein response in podocytes and leads to nephrotic syndrome." in: **Laboratory investigation; a journal of technical methods and pathology**, (2011)

[\(PubMed\)](#).

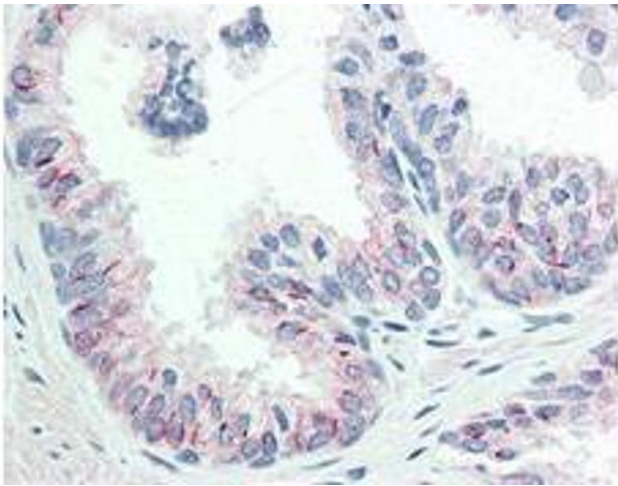
## Images

**Western Blotting**

**Image 1.** Western Blot of Mouse Anti-Akt pS473 antibody. A Lane 1) PDGF stimulated NIH 3T3 cells 10 µl Lane 2) NIH 3T3 cells 10 µl Lane 3) HeLa whole cell lysate 10 µl (weak signal) B Lane 4) GST negative control protein 100 ng Lane 5) GST negative control protein 25 ng Lane 6) AKT 1 recombinant protein 100 ng Lane 7) AKT 1 recombinant protein 25 ng Block: 5% BSA overnight at 4°C. Primary antibody: monoclonal anti AKT antibody S, lot no. 27843 used at 1:1000 for overnight at 4°C. Secondary antibody: HRP Conjugated goat anti mouse lot 20121 1:25K for 45 min at RT. Detection : TMBM-100 for 20 minutes, rinsed with deionized water, dried and scanned on conventional flatbed scanner

**Western Blotting**

**Image 2.** Western Blot of Mouse Anti-Akt pS473 antibody. Lane 1: unstimulated NIH/3T3 lysates contain inactive unphosphorylated Akt1, green band. Lane 2: PDGF stimulated NIH/3T3 lysate contains both inactive (green band) and activated phosphorylated Akt1 (red band). Load: 10 µg per lane. Primary antibody: rabbit anti-Akt (pan) and mouse anti-Akt pS473 specific antibodies at 1:400 for overnight at 4°C. Secondary antibody: 549 conjugated anti-rabbit IgG (green) and 649 conjugated anti-mouse IgG (red) secondary antibodies at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C.



### Immunohistochemistry

**Image 3.** Immunohistochemistry of Mouse anti-AKT pS473 antibody. Tissue: human prostate tissue. Fixation: formalin fixed paraffin embedded. Antigen retrieval: not required. Primary antibody: AKT pS473 antibody at 20 µg/mL for 1 h at RT. Secondary antibody: Dako's Techmate streptavidin-biotin reagents at 1:10,000 for 45 min at RT. Localization: AKT pS473 is nuclear and occasionally cytoplasmic. Staining: AKT pS473 as precipitated red signal with hematoxylin purple nuclear counterstain.

Please check the [product details page](#) for more images. Overall 4 images are available for ABIN349614.