

Datasheet for ABIN94783  
**anti-AKT1 antibody (C-Term)**

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## Overview

Quantity:	200 µL
Target:	AKT1
Binding Specificity:	C-Term
Reactivity:	Human, Mouse, Rat, Chicken
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This AKT1 antibody is un-conjugated
Application:	Western Blotting (WB), ELISA, Immunoprecipitation (IP), Fluorescence Microscopy (FM), Immunohistochemistry (Formalin-fixed Paraffin-embedded Sections) (IHC (fp))

## Product Details

Immunogen:	AKT Antibody was produced from whole rabbit serum prepared by repeated immunizations with a synthetic peptide C-R-P-H-F-P-Q-F-S-Y-S-A-S-G-T-A corresponding to the C-terminus (460-480) of human, rat and mouse and chicken AKT proteins conjugated to KLH using maleimide. A residue of cysteine was added to the amino terminal end to facilitate coupling. Immunogen Type: Peptide
Specificity:	AKT Antibody detects AKT which 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 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

## Product Details

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 Antibody is ideal for investigators involved in Cell Signaling, Neuroscience, Signal Transduction research.

**Characteristics:** AKT Antibody is suitable for western blotting to detect a single band of the expected apparent molecular weight, immunohistochemistry (Formalin-fixed paraffin-embedded sections), immunofluorescence microscopy using paraformaldehyde-fixed primary cardiomyocyte cultures, immunoprecipitation, transfected cell culture, primary cell culture and ELISA. Researchers should determine optimal titers for applications that are not stated below.

**Sterility:** Sterile filtered

## Target Details

**Target:** AKT1

**Alternative Name:** AKT ([AKT1 Products](#))

**Background:** AKT Antibody is suitable for western blotting to detect a single band of the expected apparent molecular weight, immunohistochemistry (Formalin-fixed paraffin-embedded sections), immunofluorescence microscopy using paraformaldehyde-fixed primary cardiomyocyte cultures, immunoprecipitation, transfected cell culture, primary cell culture and ELISA. Researchers should determine optimal titers for applications that are not stated below. Synonyms: RAC-PK-alpha, Protein kinase B, PKB, C-AKT, RAC-alpha serine/threonine-protein kinase, Proto-oncogene c-Akt, AKT1, AKT 1, AKT-1

**Gene ID:** 207, 62241011

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

**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](#)

## Target Details

[Regulation of fat Cell Differentiation](#), [VEGFR1 Specific Signals](#), [VEGF Signaling](#), [Warburg Effect](#)

## Application Details

**Application Notes:** AKT Antibody is suitable for western blotting to detect a single band of the expected apparent molecular weight, immunohistochemistry (Formalin-fixed paraffin-embedded sections), immunofluorescence microscopy using paraformaldehyde-fixed primary cardiomyocyte cultures, immunoprecipitation, transfected cell culture, primary cell culture and ELISA. Researchers should determine optimal titers for applications that are not stated below.

**Comment:** Gene Name: AKT1

**Restrictions:** For Research Use only

## Handling

**Format:** Liquid

**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:** 4 °C

**Storage Comment:** Store vial at 4° C before opening. DO NOT FREEZE. This product is stable at 4° C as an undiluted liquid. Dilute only prior to immediate use. Freezing alkaline phosphatase conjugates will result in a substantial loss of enzymatic activity. Expiration date is one (1) year from date of opening.

**Expiry Date:** 12 months

## Publications

**Product cited in:** Sato, Uzu, Kashiba, Suzuki, Fujiwara, Okuzawa, Ueno: "Sodium butyrate enhances the growth inhibitory effect of sunitinib in human renal cell carcinoma cells." in: **Oncology letters**, Vol. 14, Issue 1, pp. 937-943, (2017) ([PubMed](#)).

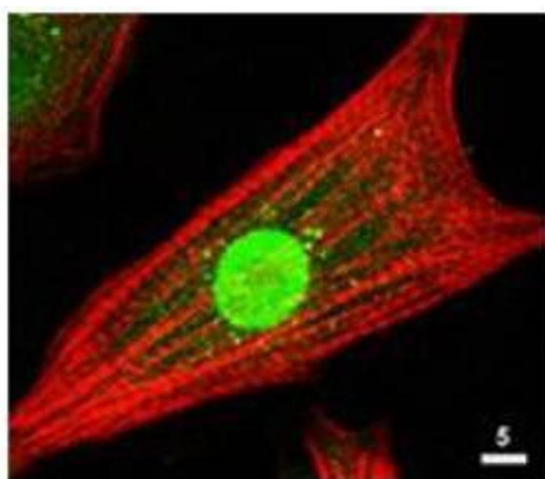
Takeuchi, Ryo, Komitsu, Mikuni-Takagaki, Fukui, Takagi, Shiraishi, Morishita, Yamazaki, Kumagai, Aoki, Saito: "Low-intensity pulsed ultrasound activates the phosphatidylinositol 3 kinase/Akt pathway and stimulates the growth of chondrocytes in three-dimensional cultures: a

basic science study." in: **Arthritis research & therapy**, Vol. 10, Issue 4, pp. R77, (2008) ([PubMed](#)).

Matsuda, Takano, Kageyama, Hatakeyama, Shakunaga, Kitajima, Yamazaki, Hattori: "Silencing of caspase-8 and caspase-3 by RNA interference prevents vascular endothelial cell injury in mice with endotoxic shock." in: **Cardiovascular research**, Vol. 76, Issue 1, pp. 132-40, (2007) ([PubMed](#)).

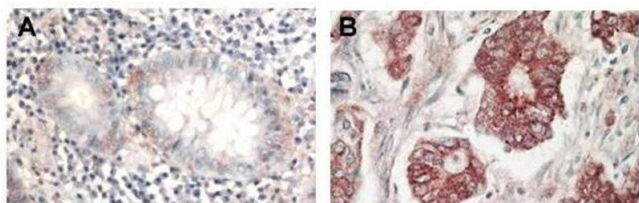
Lawlor, Alessi: "PKB/Akt: a key mediator of cell proliferation, survival and insulin responses?" in: **Journal of cell science**, Vol. 114, Issue Pt 16, pp. 2903-10, (2001) ([PubMed](#)).

## Images



### Immunofluorescence

**Image 1.** Immunofluorescence Microscopy of Rabbit Anti-AKT Antibody. Tissue: neonatal rat cardiomyocytes. Fixation: 0.5% PFA. Antigen retrieval: not required. Primary antibody: AKT antibody at 1:80 dilution for 1 h at RT. Secondary antibody: Texas-red™ conjugated rabbit secondary antibody at 1:10,000 for 45 min at RT. Localization: AKT is nuclear. Staining: Anti-AKT staining appears green. Actin filaments are labeled red using a Texas-red™ conjugated phalloidin.



### Immunohistochemistry

**Image 2.** Immunohistochemistry of Rabbit Anti-AKT antibody. Tissue: (A) normal colon tissue, (B) colon tumor tissue. Fixation: formalin fixed paraffin embedded. Antigen retrieval: not required. Primary antibody: AKT antibody at 1:1,000 dilution for 1 h at RT. Secondary antibody: Peroxidase rabbit secondary antibody at 1:10,000 for 45 min at RT. Localization: AKT is nuclear. Staining: AKT as precipitated red signal with hematoxylin purple nuclear counterstain.



### Western Blotting

**Image 3.** Western Blot of Rabbit Anti-AKT antibody. Lane 1: NIH/3T3 whole cell lysate. Load: 20 ug per lane. Primary antibody: AKT antibody at 1:500 for overnight at 4°C. Secondary antibody: HRP conjugated Gt-a-Rabbit IgG at 1:10,000 preceded color development using Pierce Chemical's substrate. Block: MOPS buffer overnight at 4°C. Predicted/Observed size: 128 kDa, 128 kDa for AKT. Other band(s): none.

Please check the [product details page](#) for more images. Overall 5 images are available for ABIN94783.