ROCKLAND

Order online now!

www.rockland.com
tech@rockland.com
+1 484.791.3823

Datasheet for 200-401-N98

AKT Antibody

Overview

Description:	Anti-AKT (RABBIT) Antibody - 200-401-N98
Item No.:	200-401-N98
Size:	100 µg
Applications:	WB
Reactivity:	Human, Mouse, Rat
Host Species:	Rabbit

Product Details

Background:	AKT 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 Antibody is ideal for investigators involved in Cell Signaling, Cancer, Neuroscience, Signal Transduction research.
Synonyms:	rabbit anti-AKT antibody, RAC-PK-alpha, Protein kinase B, PKB, C-AKT, RAC-alpha serine/threonine-protein kinase, Proto-oncogene c-Akt, AKT1 Antibody, AKT2 Antibody, AKT3 Antibody
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	IgG

Target Details

Gene Name:	AKT1, AKT2, AKT3
Reactivity:	Human, Mouse, Rat

Immunogen Type:	Native Protein
Immunogen:	Anti-AKT Pan Reactive Antibody was produced in rabbits by repeated immunizations with a cocktail containing recombinant human AKT1, AKT2, and AKT3 protein isoforms.
Purity/Specificity:	AKT Antibody reacts with the AKT from human tissues. Anti-AKT antibody was purified from monospecific antiserum by Protein A chromatography. Based on sequence we expect this antibody to react as well with rat, mouse, and chicken AKT.
Relevant Links:	• UniProtKB - P31749 • NCBI - NP_001014431.1 • GeneID - 207 • UniProtKB - Q9Y243 • NCBI - NP_001193658.1 • GeneID - 10000 • UniProtKB - P31751 • NCBI - NP_001617.1 • GeneID - 208

Application Details

Tested Applications:	WB
Application Note:	AKT Antibody is tested in western blotting to detect a single band of the expected apparent molecular weight. This antibody is suitable for immunohistochemistry (Formalin-fixed paraffin-embedded sections), immunofluorescence microscopy using paraformaldehyde-fixed primary cardiomyocyte cultures, immunoprecipitation, transfected cell culture, primary cell culture and ELISA. Expect bands at ~56 kDa in size corresponding to AKT by western blotting in the appropriate cell lysate or extract. Researchers should determine optimal titers for applications that are not stated below.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	User Optimized
FC:	User Optimized
IF:	1:500 - 1:2,000
IHC:	1:500 - 1:2,000
WB:	1:1,000 - 1:5,000

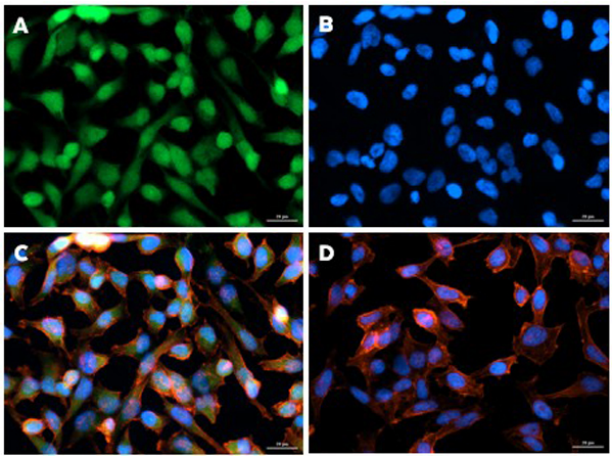
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.0 mg/ml by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.5 M Sodium Chloride, pH 7.2
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None

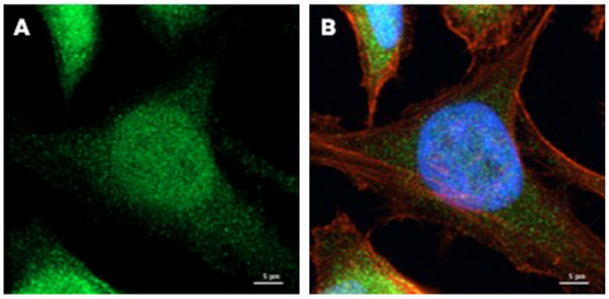
Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

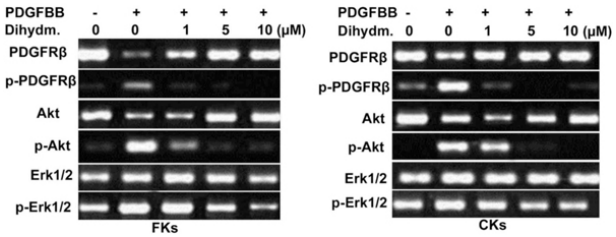
Images



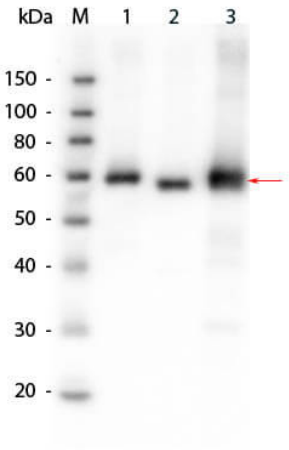
Immunofluorescence Microscopy
Immunofluorescence using Rabbit Anti-AKT Antibody.
Cell: HeLa.
Fixative: 4% PFA.
Permeabilization: 1X PBS, 0.3% Triton X-100.
Primary Antibody: Anti-AKT (p/n 200-401-N98) at 1:250 overnight at 2-8°C.
Secondary Antibody: Goat Anti-Rabbit IgG (H&L) Antibody DyLight™ 488 Conjugated Pre-Adsorbed (p/n 611-141-122) at 1:100 for 1hr at RT.
Counterstain: Phalloidin.
Nuclear Stain: Hoechst 33342.
Expected Location: Cytoplasmic/Slightly Nuclear.
Image Magnification: 40X (with deconvolution).
Staining: (A) AKT; (B) Nuclear; (C) AKT, Actin, and Nuclear overlay; (D) secondary only overlay.



Immunofluorescence Microscopy
Immunofluorescence using Rabbit Anti-AKT Antibody.
Cell: HeLa.
Fixative: 4% PFA.
Permeabilization: 1X PBS, 0.3% Triton X-100.
Primary Antibody: Anti-AKT (p/n 200-401-N98) at 1:250 overnight at 2-8°C.
Secondary Antibody: Goat Anti-Rabbit IgG (H&L) Antibody DyLight™ 488 Conjugated Pre-Adsorbed (p/n 611-141-122) at 1:100 for 1hr at RT.
Counterstain: Phalloidin.
Nuclear Stain: Hoechst 33342.
Expected Location: Cytoplasmic/Slightly Nuclear.
Image Magnification: 40X (with deconvolution and digital zoom).
Staining: (A) AKT; (B) AKT, Actin, Nuclear Overlay.



Western Blot
Dihydromyricetin alters the expression levels of PDGFRβ and the activation of Akt and Erk1/2 in fibroblasts. The fibroblasts were treated with various concentrations of dihydromyricetin or with dimethyl sulfoxide alone (control) and were then subjected to reverse transcription-polymerase chain reaction analysis. PDGF, platelet-derived growth factor; PDGFR, PDGF receptor; Dihydm, dihydromyricetin; Erk, extracellular signal-regulated kinase; p-, phosphorylated; FKs, fibroblasts from normal tissue; CKs, fibroblasts from cancerous tissue. Fig 3. PMID: 29039563



Western Blot
Western Blot of Anti-AKT (RABBIT) Antibody. M: SuperSignal MW markers. Lane 1: rAKT1. Lane 2: rAKT2. Lane 3: rAKT3. Load: 50 ng per lane. Primary antibody: Anti-AKT (RABBIT) Antibody at 1:1,000 for 2 hours at RT. Secondary antibody: Peroxidase rabbit secondary antibody (p/n 611-103-122) at 1:20,000 for 1 hour at RT. Block: Blocking Buffer for Fluorescent Western Blotting (MB-070), 1/2 hour at RT. Predicted/Observed size: 56kDa, 56kDa for AKT1, 2, and 3.

References

- Takemori H et al. Mouse model of metformin-induced diarrhea. *BMJ Open Diabetes Res Care.* (2020)
- Fan KJ et al. Inhibition of human lung cancer proliferation through targeting stromal fibroblasts by dihydromyricetin. *Mol Med Rep.* (2017)

Disclaimer

This product is for research use only and is not intended for therapeutic or diagnostic applications. Please contact a technical service representative for more information. All products of animal origin manufactured by Rockland Immunochemicals are derived from starting materials of North American origin. Collection was performed in United States Department of Agriculture (USDA) inspected facilities and all materials have been inspected and certified to be free of disease and suitable for exportation. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.