

Datasheet for ABIN1043756
anti-AKT1 antibody (pSer473) (Atto 594)



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Overview

Quantity:	100 µg
Target:	AKT1
Binding Specificity:	pSer473
Reactivity:	Human, Mouse, Rat, Monkey
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This AKT1 antibody is conjugated to Atto 594
Application:	Western Blotting (WB), ELISA, Flow Cytometry (FACS), Fluorescence Microscopy (FM), FLISA

Product Details

Purpose:	AKT phospho S473 ATTO594 Conjugated Antibody
Immunogen:	Immunogen: Akt phospho S473 ATTO594 Conjugated Antibody was produced by repeated immunizations with a synthetic peptide corresponding to residues surrounding S473 of human AKT1 protein. Immunogen Type: Conjugated Peptide
Clone:	17F6-B11
Isotype:	IgG1 kappa
Cross-Reactivity (Details):	This antibody is specific for human and mouse AKT protein phosphorylated at S473.
Characteristics:	Synonyms: mouse anti-AKT pS473 ATTO 594 conjugated Antibody, ATTO 594 conjugated mouse anti-AKT pS473 Antibody, RAC-PK-alpha, Protein kinase B, PKB, C-AKT, RAC-alpha serine/threonine-protein kinase, Proto-oncogene c-Akt, AKT1, AKT 1, AKT-1, AT594, ATTO 594,

Product Details

ATTO-TEC 594

Purification: Anti-AKT pS473 Monoclonal Antibody was purified from concentrated tissue culture supernate by Protein A chromatography.

Labeling Ratio: 2.5

Target Details

Target: AKT1

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

Background: Background: Anti-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 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. Phospho AKT antibody is ideal for investigators involved in Cell Signaling, Cancer, Neuroscience, Signal Transduction research.

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

Application Details

Application Notes: Flow Cytometry Dilution: User Optimized

Application Note: Anti-AKT pS473 Antibody ATTO 594 Conjugated is designed for STED microscopy, FRET, immunofluorescence microscopy, fluorescence based plate assays (FLISA) and fluorescent western blotting. This product is also suitable for multiplex analysis, including multicolor imaging, utilizing various commercial platforms. This antibody has been tested in fluorescent 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.

Western Blot Dilution: >1:10,000

FLISA Dilution: >1:20,000

ELISA Dilution: 1:20,000

IF Microscopy Dilution: >1:5,000

Other: User Optimized

Restrictions: For Research Use only

Handling

Format: Lyophilized

Reconstitution: Reconstitution Volume: 100 µL
Reconstitution Buffer: Restore with deionized water (or equivalent)

Concentration: 1.0 mg/mL

Buffer: Buffer: 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Stabilizer: 10 mg/mL Bovine Serum Albumin (BSA) - Immunoglobulin and Protease free
Preservative: 0.01 % (w/v) Sodium Azide

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, -20 °C

Storage Comment: Store vial at 4° C prior to restoration. For extended storage aliquot contents and freeze at -20° C or below. 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

Handling

liquid. Dilute only prior to immediate use.

Expiry Date: 12 months

Publications

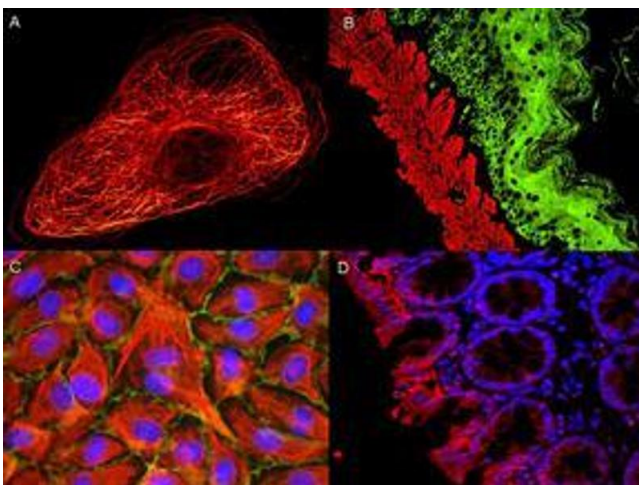
Product cited in: Lawlor, Alessi: "PKB/Akt: a key mediator of cell proliferation, survival and insulin responses?" in: **Journal of cell science**, Vol. 114, Issue Pt 16, pp. 2903-10, (2001) ([PubMed](#)).

Alessi: "Discovery of PDK1, one of the missing links in insulin signal transduction. Colworth Medal Lecture." in: **Biochemical Society transactions**, Vol. 29, Issue Pt 2, pp. 1-14, (2001) ([PubMed](#)).

Jones, Jakubowicz, Pitossi, Maurer, Hemmings: "Molecular cloning and identification of a serine/threonine protein kinase of the second-messenger subfamily." in: **Proceedings of the National Academy of Sciences of the United States of America**, Vol. 88, Issue 10, pp. 4171-5, (1991) ([PubMed](#)).

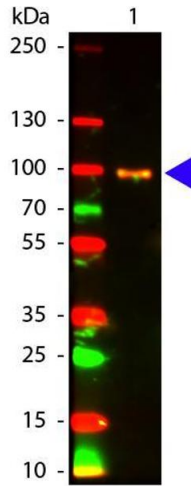
Staal: "Molecular cloning of the akt oncogene and its human homologues AKT1 and AKT2: amplification of AKT1 in a primary human gastric adenocarcinoma." in: **Proceedings of the National Academy of Sciences of the United States of America**, Vol. 84, Issue 14, pp. 5034-7, (1987) ([PubMed](#)).

Images



Immunofluorescence

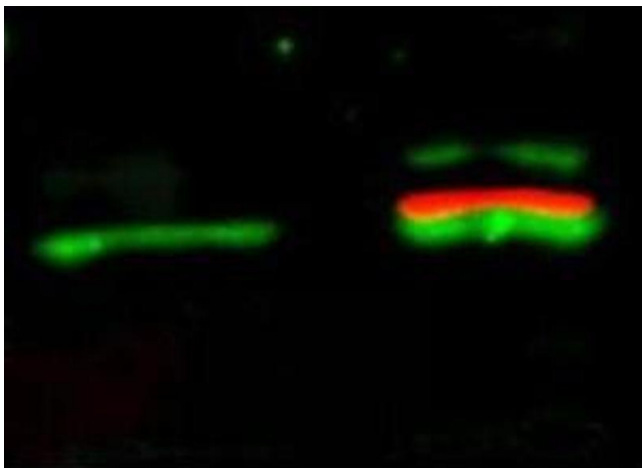
Image 1. ATTO dyes can be used for multicolor immunofluorescent detection with low background and high signal. Examples shown are: A. Tubulin in PtK2- male Rat Kangaroo Kidney Epithelial Cells was detected using ATTO 532 labeled secondary antibody. B. Muscle alpha-actin was stained with a mouse primary antibody and ATTO 488 anti-mouse IgG (green) while Cytokeratin was stained with polyclonal rabbit anti-cytokeratin and ATTO 647N anti-rabbit IgG (red). C. HUVEC (Human umbilical vein endothelial cells



were stained with anti- Vimentin-ATTO 532 (green), anti-E-Cadherin-ATTO 655 (red) and DAPI (blue). D. Rat colon sections were stained with Anti-Aquaporin 3-ATTO 594 antibody. Hoechst 33342 (blue) is used as counterstain.

Western Blotting

Image 2. Western Blot of Mouse anti-AKT pS473 antibody Atto 594 Conjugated. Lane 1: GST Tagged AKT 1 Active Recombinant Protein. Lane 2: None. Load: 25 ng per lane. Primary antibody: None. Secondary antibody: Atto 594 mouse secondary antibody at 1:1,000 for 60 min at RT. Block: ABIN925618 for 30 min at RT. Predicted/Observed size: ~100 kDa, ~100 kDa for AKT pS473. Other band(s): None



Western Blotting

Image 3. 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.