

Alexa Fluor® 488 anti-AKT Phospho (Ser473) Antibody

Catalog# / Size	606557 / 25 tests 606558 / 100 tests
Clone	A21001C
Regulatory Status	RUO
Other Names	Protein kinase B alpha, PRK-BA, PKB, Serine/Threonine specific kinase RAC alpha, Protein kinase Akt, RAC
Isotype	Mouse IgG1, κ
Description	AKT (also known as protein kinase B alpha) is a 60 kD serine/threonine-specific kinase containing a pleckstrin domain. AKT plays a critical role in controlling survival and apoptosis. This kinase is ubiquitously expressed and translocates to the membrane upon cell activation. It is activated by insulin and various growth and survival factors to function in a wortmannin-sensitive pathway involving PI 3-kinase. AKT is activated by phospholipid binding and activation loop phosphorylation at Thr308 by PDK1 and by phosphorylation within the carboxy terminus at Ser473. The previously elusive PDK2, responsible for phosphorylation of AKT at Ser473, has been identified as a mammalian target of rapamycin (mTOR) in a rapamycin-insensitive complex with rictor and Sin1. Activated AKT phosphorylates a wide range of substrates including transcription factors (e.g. FOXO1), kinases (GSK-3beta, Raf-1, ASK, Chk1) and other proteins with important signaling roles (e.g. Bad, MDM2). AKT promotes cell survival by inhibiting apoptosis through phosphorylation of several targets, including Bad, forkhead transcription factor, c-Raf and caspase-9. AKT also plays a critical role in cell growth by directly phosphorylating mTOR in a rapamycin-sensitive complex containing raptor. More importantly, AKT phosphorylates and inactivates tuberlin (TSC2), an inhibitor of mTOR within the mTOR-raptor complex.

Product Details

Verified Reactivity	Human, Mouse
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Synthetic peptide of human AKT phosphorylated at Ser473
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and BSA (origin USA)
Preparation	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 488 under optimal conditions.
Concentration	Lot-specific (to obtain lot-specific concentration and expiration, please enter the lot number in our Certificate of Analysis online tool.)
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Application	ICFC - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by intracellular flow cytometry using our True-Phos™ Perm Buffer in Cell Suspensions Protocol. For flow cytometric staining, the suggested use of this reagent is 5 µL per million cells in 100 µL staining volume or 5 µL per 100 µL of whole blood. It is recommended that the reagent be titrated for optimal performance for each application.

* Alexa Fluor® 488 has a maximum emission of 519 nm when it is excited at 488 nm.

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Excitation Laser	Blue Laser (488 nm)
Additional Product Notes	For use of this antibody in intracellular staining for flow cytometry (ICFC), we recommend fixation/permeabilization with True-Phos™ Perm Buffer (Cat. No. 425401).
RRID	AB_3699061 (BioLegend Cat. No. 606557) AB_3699061 (BioLegend Cat. No. 606558)

Antigen Details

Structure	AKT is a 480 amino acid protein with a predicted molecular weight of 56 kD.
Distribution	Ubiquitously expressed, translocates to the membrane upon activation
Function	Catalytically inactive multimeric complex. AKT is activated by phospholipid binding and activation loop phosphorylation at Thr308 by PDK1 and by phosphorylation within the carboxy terminus at Ser473 by PDK2.
Interaction	Interacts through pleckstrin homology domain with second messengers. Interacts with AKTIP, CDKN1B
Antigen References	<ol style="list-style-type: none"> 1. Jacinto E, <i>et al.</i> 2006. <i>Cell</i>. 127:125-37. 2. Inoki K, <i>et al.</i> 2002. <i>Nat Cell Biol</i>. 4:648-57. 3. Franke TF, <i>et al.</i> 1995. <i>Cell</i>. 81:727-36. 4. Brunet A, <i>et al.</i> 1999. <i>Cell</i>. 96:857-68. 5. Yang WL, <i>et al.</i> 2010. <i>Cell Cycle</i>. 9:487-97.

Gene ID [207](#)

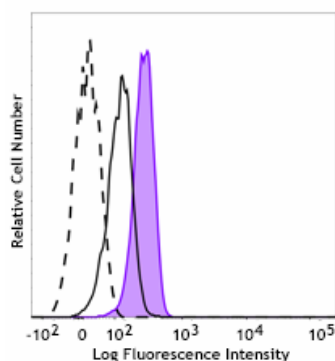
Related Protocols

- [Intracellular Flow Cytometry Staining Protocol](#)

Other Formats

Purified anti-AKT Phospho (Ser473), Alexa Fluor® 647 anti-AKT Phospho (Ser473), PE anti-AKT Phospho (Ser473), Alexa Fluor® 488 anti-AKT Phospho (Ser473) Antibody

Product Data



Serum starved Jurkat cells untreated (filled histogram, positive control) or treated with wortmannin (open histogram, negative control) were fixed and permeabilized using True-Phos™ Perm Buffer (Cat. No. 425401) and then intracellularly stained with Alexa Fluor® 488 anti-AKT Phospho (Ser473) (clone A21001C) or Alexa Fluor® 488 mouse IgG1, κ Isotype Control (Cat. No. 400134) (open histogram, dashed line)

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