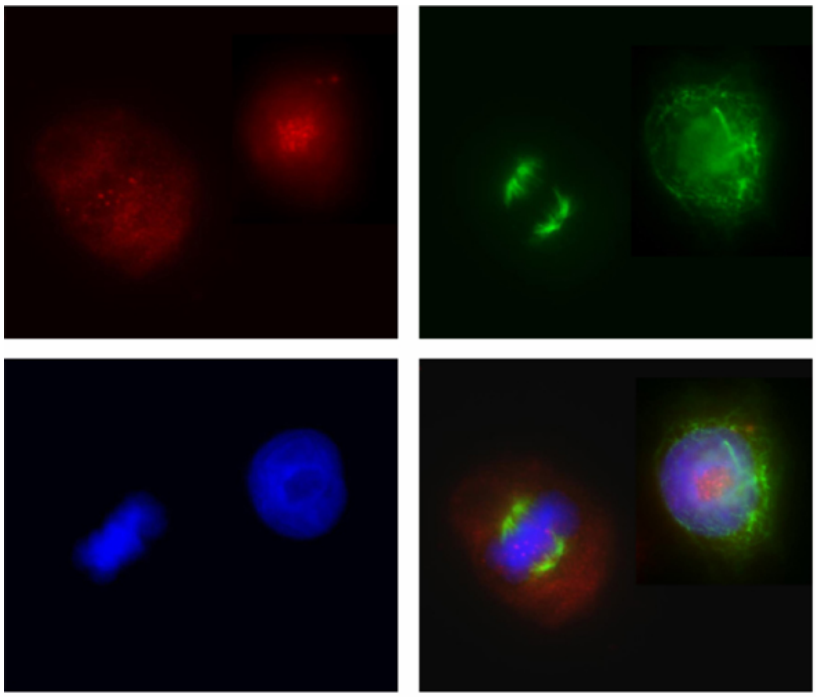
Product Data Sheet

Purified anti-Akt

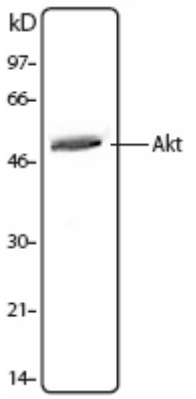
Catalog #/ Size:	603401 / 50 µl (5 Western blots) 603402 / 200 µl (20 Western blots)
Clone:	Poly6034
Isotype:	Rabbit IgG
Immunogen:	Recombinant (partial) , C-terminal
Reactivity:	Human
Preparation:	The antibody was purified by antigen-affinity chromatography.
Formulation:	This antibody is provided in phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 50% glycerol.
Storage:	Upon receipt, store frozen at -20° C.

Applications

Applications:	WB, IF
Recommended Usage:	Each lot of this antibody is quality control tested by Western blotting. Western blotting, suggested working dilution(s): Use 10 µl per 5 ml antibody dilution buffer for each mini-gel. For immunofluorescence microscopy: Use a dilution range of 1:100~1:400. It is recommended that the reagent be titrated for optimal performance for each application.



Immunofluorescent microscope analysis of overnight nocodazole treated Hela cells using anti-AKT polyclonal antibody (poly6034) (red). α-tubulin (clone 10D8) has been labeled with green and nuclei were stain with DAPI (blue).



Jurkat cell extract was resolved by electrophoresis, transferred to nitrocellulose and probed with anti-Akt antibody. Proteins were visualized using a donkey anti-rabbit secondary conjugated to HRP and a chemiluminescence detection system.

Antigen Information

Other Names: Protein kinase B alpha (PRK-BA), Serine/Threonine specific kinase RAC alpha, Protein kinase Akt

Structure: Serine/Threonine family of kinases, pleckstrin domain; 60 kD

Distribution: Ubiquitously expressed, translocates to the membrane upon activation. Phosphorylates substrates in cytoplasm, nucleus

Function: Catalytically inactive multimeric complex, cell signals that result in phosphatidyl-3,4,5-triphosphate generation (PIP3) result in partial activation of Akt after phosphorylation by phosphoinositide-dependent protein kinase 1 complex. Becomes fully activated only after autophosphorylation.

Regulation: Survival factors that suppress apoptosis activate Akt. Akt phosphorylates and inactivates components of the apoptotic machinery. Akt can be activated by TNF, IL-1, PDGF, insulin like growth factor 1

Modification: Phosphorylation

Interaction: Interacts through pleckstrin homology domain with second messengers phosphatidylinositol-(3,4,5)-trisphosphate (PtdIns(3,4,5)P[3]) and PtdIns(3,4), interacts with PED/PEA, TCL-1, Nur77, inosine-5'-monophosphate dehydrogenase, PKC-ζ

Description: Akt (also known as protein kinase B alpha) is a 60 kD serine/threonine specific kinase containing a pleckstrin domain. This kinase is ubiquitously expressed and translocates to the membrane upon activation. Akt phosphorylates substrates in both the cytoplasm and the nucleus. Akt exists as a catalytically inactive multimeric complex until phosphatidyl-3,4,5-triphosphate (PIP_3) is generated as a result of cell signaling. Elevated PIP_3 results in the partial activation of Akt after phosphorylation by phosphoinositide-dependent protein kinase 1 complex; Akt becomes fully activated only after autophosphorylation. Akt is a potent inhibitor of apoptosis and has been implicated as a factor in tumorigenesis and progression. Survival factors that suppress apoptosis activate Akt which phosphorylates and inactivates components of the apoptotic machinery. Akt can also be activated by TNF, IL-1, PDGF, and insulin like growth factor 1. Akt interacts through its pleckstrin homology domain with the second messengers phosphatidylinositol-(3,4,5)-trisphosphate (PtdIns(3,4,5)P[3]) and PtdIns(3,4). Akt has also been shown to interact with PED/PEA, TCL-1, Nur77, inosine-5'-monophosphate dehydrogenase, and PKC-ζ. The Poly6034 antibody has been shown to be useful for Western blotting of human Akt.

Antigen References:

1. Franke, T., *et al.*, 1995. Cell 81:727.
2. Brunet, A., *et al.*, 1999. *Cell* 96:857.
3. Staal, S. 1987. *PNAS* 84:5034.