

**Anti-Akt (N-terminal region) Antibody**  
Catalog # AN1624**Specification****Anti-Akt (N-terminal region) Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">P31749</a>
Reactivity	Bovine
Host	Mouse
Clonality	Mouse Monoclonal
Isotype	IgG1
Calculated MW	55686

**Anti-Akt (N-terminal region) Antibody - Additional Information**

Gene ID 207

**Other Names**

PKBalpha, PKB, AKT

**Target/Specificity**

Akt (PKB, Rac kinase) is a 60kDa ser/thr kinase critical for controlling diverse cellular functions, including glucose metabolism, gene transcription, cell proliferation, and apoptosis. Akt phosphorylates a number of substrates including MBP, glycogen synthetase, PKA RII subunit, and histone H1. Akt is activated in response to insulin and growth factors in a PI3-kinase dependent manner. Activation of PI3-Kinase generates phosphatidylinositol 3,4-bisphosphate, which induces membrane translocation of Akt coincident with its phosphorylation at Thr-308 and Ser-473. Upon activation, Akt associates with members of the PKC family of kinases, such as PKC $\delta$  and PKC $\zeta$ . Ceramide-activated PKC $\zeta$  leads to phosphorylation of Thr-34 within the pleckstrin homology domain of Akt. This phosphorylation inhibits PIP3 binding to Akt preventing activation of the kinase and may lead to ceramide-induced cell death.

**Format**

Protein A Purified

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

Anti-Akt (N-terminal region) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Shipping**

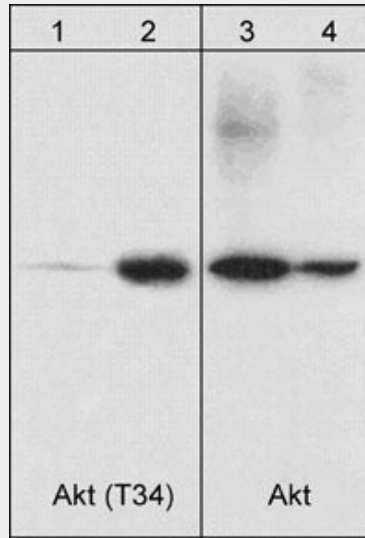
Blue Ice

**Anti-Akt (N-terminal region) Antibody - Protocols**

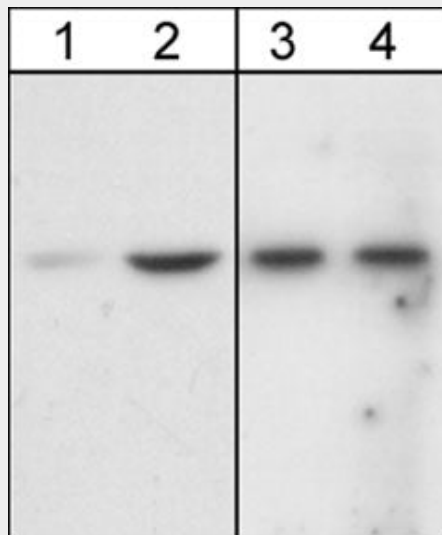
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

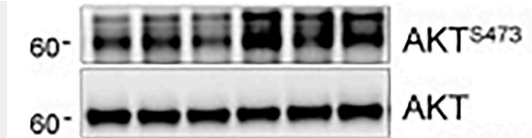
**Anti-Akt (N-terminal region) Antibody - Images**



Western blot analysis of A431 cells, serum starved overnight (lanes 1 & 3) or treated with calyculin A (100 nM) for 30 min. (lanes 2 & 4). The blot was probed with anti-Akt (Thr-34) (lanes 1 & 2) or anti-Akt1 (N-terminal region) (lanes 3 & 4).



Western blot analysis of A431 cells untreated (lanes 1 & 3) or treated with 100 ng/ml EGF for 60 min. (lanes 2 & 4). The blots were probed with monoclonal anti-phospho-Akt (Ser-473) (lanes 1 & 2) and monoclonal anti-Akt1 (N-terminal region) (lanes 3 & 4).



Western blot image of HEK293 cells treated with 100 nM insulin for 15, 30, 60, and 120 minutes measuring AKT activation between phosphorylated and total AKT protein levels. (Cat No AM1011, 1:1000). CC-BY-4.0 PMID: 37108445

#### **Anti-Akt (N-terminal region) Antibody - Background**

Akt (PKB, Rac kinase) is a 60kDa ser/thr kinase critical for controlling diverse cellular functions, including glucose metabolism, gene transcription, cell proliferation, and apoptosis. Akt phosphorylates a number of substrates including MBP, glycogen synthetase, PKA RII subunit, and histone H1. Akt is activated in response to insulin and growth factors in a PI3-kinase dependent manner. Activation of PI3-Kinase generates phosphatidylinositol 3,4-bisphosphate, which induces membrane translocation of Akt coincident with its phosphorylation at Thr-308 and Ser-473. Upon activation, Akt associates with members of the PKC family of kinases, such as PKC $\delta$  and PKC $\zeta$ . Ceramide-activated PKC $\zeta$  leads to phosphorylation of Thr-34 within the pleckstrin homology domain of Akt. This phosphorylation inhibits PIP3 binding to Akt preventing activation of the kinase and may lead to ceramide-induced cell death.