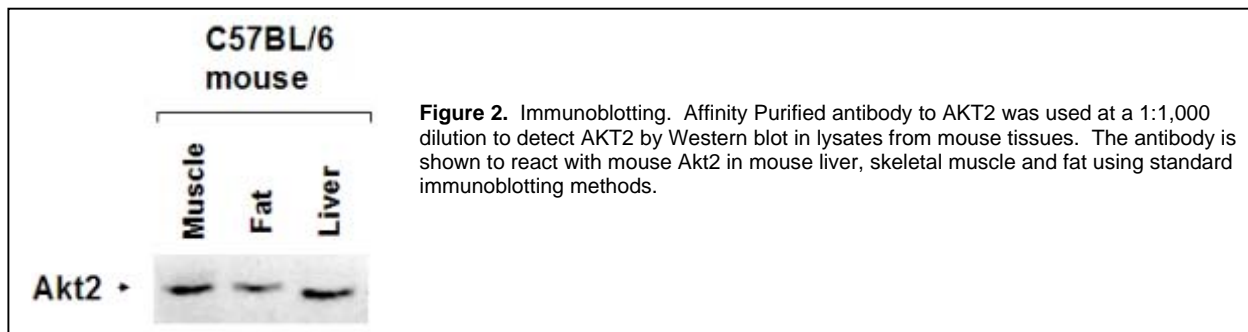
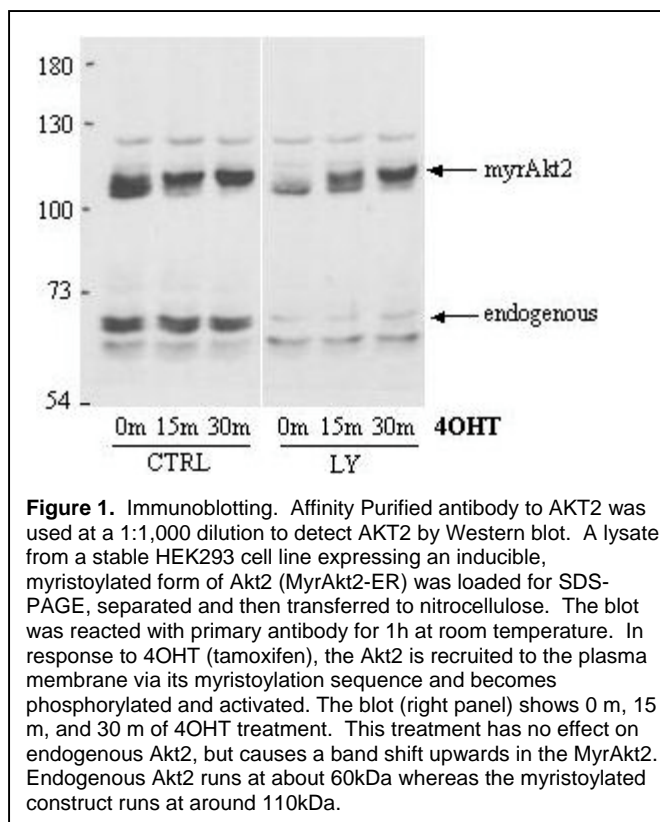


Product Specification Sheet**Product:** Affinity Purified Anti-AKT2 (Human) (Rabbit)**Code:** 600-401-425**Lot #:** 12557**Size:** 100 µg**Physical State:** Liquid (sterile filtered)**Antibody Concentration:** 1.0 mg/ml (by UV absorbance at 280 nm)**Buffer:** 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2**Stabilizer:** None**Preservative:** 0.01% (w/v) Sodium Azide

Storage Conditions: Store vial at -20° C prior to opening. Centrifuge product if not completely clear after standing at room temperature. Dilute only prior to immediate use. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Expiration date is one (1) year from date of opening.

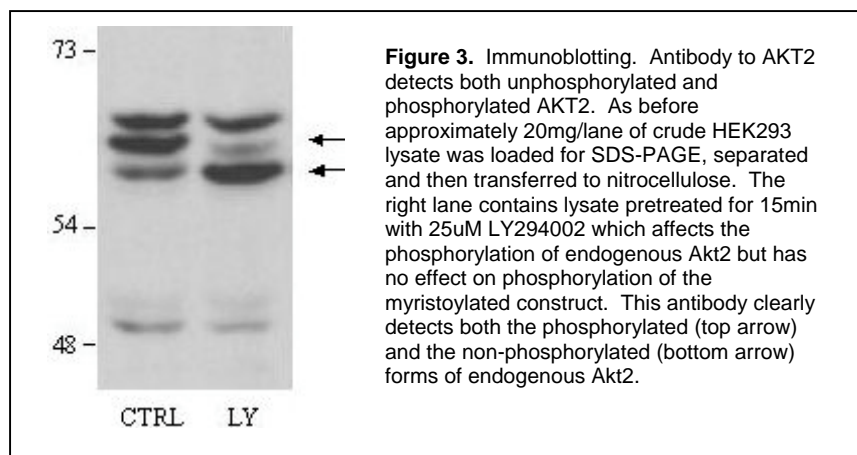
Background Information: AKT2 is also known as V-AKT Murine Thymoma Viral Oncogene Homolog 2 antibody, Rac protein kinase beta antibody, PKB beta antibody or PRKBB antibody. AKT2 is an isoform of the phosphoinositide-dependent serine-threonine protein kinase AKT and is enriched in insulin-responsive tissues and has been implicated in the metabolic actions of the hormone. AKT2 is a putative oncogene encoding a protein belonging to a subfamily of serine/threonine kinases containing SH2-like (Src homology 2-like) domains. Furthermore, AKT2 was shown to be amplified and overexpressed in 2 of 8 ovarian carcinoma cell lines and 2 of 15 primary ovarian tumors. Over-expression of AKT2 contributes to the malignant phenotype of a subset of human ductal pancreatic cancers. AKT2 is a general protein kinase capable of phosphorylating several known proteins. AKT2 mediates many of the downstream events of PI 3-kinase (a lipid kinase activated by growth factors, cytokines and insulin). PI 3-kinase recruits AKT2 to the membrane, where it is activated by PDK1 phosphorylation. Once phosphorylated, AKT2 dissociates from the membrane and phosphorylates targets in the cytoplasm and the cell nucleus. AKT2 has two main roles: (i) inhibition of apoptosis; (ii) promotion of proliferation.

Application Note(s): This antibody was tested by ELISA and immunoblotting and was found to be reactive with both unphosphorylated and phosphorylated AKT2 in a lysate of HEK293 cells. Although not tested, this antibody is likely functional in immunohistochemistry and immunoprecipitation.



Recommended Dilution(s): This product has been assayed by immunoblot against a HEK293 cell lysate and is reactive at a 1:1,000 dilution showing a band at approximately 60 kDa. A working dilution of 1:4,000 to 1:16,000 is suggested for this product in a standard capture ELISA using TMB (3,3',5,5'-Tetramethylbenzidine) code # TMBE-100 as a substrate for 30 minutes at room temperature against 0.1 ug of the immunizing peptide. Researchers should determine optimal titers for other applications.

Purity and Specificity: This affinity purified antibody is directed against human AKT2. The antibody detects both unphosphorylated and phosphorylated forms of the protein. The product was affinity purified from monospecific antiserum by immunoaffinity purification. Cross reactivity with AKT2 from other species has not been determined, however, the sequence of the immunogen shows 85% identity to mouse and 92% identity with rat, therefore, cross reactivity is expected.



Immunogen: This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to aa 455-468 (of 481) of human AKT2 conjugated to Keyhole Limpet Hemocyanin (KLH).

Relevant Links:

BLAST analysis of AKT2
<http://www.expasy.org/cgi-bin/blast.pl?action=HTML&sequence=RYDSLGLLELDQRT>.

Locus Link [208](#) (Human)
 Omim [164731](#) (Human)
 SwissProt [P31751](#) (Human)

Peptide sequence: R-Y-D-S-L-G-L-L-E-L-D-Q-R-T

General Reference(s):

Altomare, D. A., Kozak, C. A., Sonoda, G. and Testa, J. R. (1996) Chromosome mapping of the mouse Akt2 gene and Akt2 pseudogene. *Cytogenet. Cell Genet.* **74**: 248-251. PubMed ID : [8976376](#)

Cheng, J. Q. et al. (1992) AKT2, a putative oncogene encoding a member of a subfamily of protein-serine/threonine kinases, is amplified in human ovarian carcinomas. *Proc. Nat. Acad. Sci.* **89**: 9267-9271. PubMed ID : [1409633](#)

Cheng, J. Q. et al. (1996) Amplification of AKT2 in human pancreatic cancer cells and inhibition of AKT2 expression and tumorigenicity by antisense RNA. *Proc. Nat. Acad. Sci.* **93**: 3636-3641. PubMed ID : [8622988](#)

Cho, H. et al. (2001) Insulin resistance and a diabetes mellitus-like syndrome in mice lacking the protein kinase Akt2 (PKB-beta). *Science* **292**: 1728-1731. PubMed ID : [11387480](#)

Peng, X. et al. (2003) Dwarfism, impaired skin development, skeletal muscle atrophy, delayed bone development, and impeded adipogenesis in mice lacking Akt1 and Akt2. *Genes Dev.* **17**: 1352-1365. PubMed ID : [12782654](#)

Staal, S. P. (1987) Molecular cloning of the akt oncogene and its human homologues AKT1 and AKT2: amplification of AKT1 in a primary human gastric adenocarcinoma. *Proc. Nat. Acad. Sci.* **84**: 5034-5037. PubMed ID : [3037531](#)

USDA Certification: 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.

Note: 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.