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Datasheet for 009-001-P22

## AKT1 mutant (T308A S473A) Human Recombinant Protein

### Overview

<b>Description:</b>	AKT1 mutant (T308A/S473A) Human Recombinant Protein - 009-001-P22
<b>Item No.:</b>	009-001-P22
<b>Size:</b>	10 µg
<b>Applications:</b>	SDS-PAGE, WB
<b>Origin:</b>	Human

### Product Details

<b>Background:</b>	AKT1 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 Protein Kinase B (PKB) and RAC (Related to A and C kinases). AKT is a key regulator of many signal transduction pathways, and it 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. AKT1 mutant (T308 / S473A) recombinant protein is ideal for investigators involved in Cell Signaling, Neuroscience and Signal Transduction research.
<b>Synonyms:</b>	RAC, PKB, AKT, PKB alpha, AKT double mutant, AKT control, negative control
<b>Species of Origin:</b>	Human
<b>Type:</b>	Recombinant Protein

### Target Details

<b>Gene Name:</b>	AKT1
<b>Purity/Specificity:</b>	Recombinant protein mutant corresponds to amino acids 1 to 480 of mature human AKT1; Akt isoform 1. There are two point mutation of key activating residues, T308A and S473A. The recombinant protein contains a polyhistidine affinity tag at the amino terminus. Purity is greater than 90% as determined by reducing and non-reducing SDS-PAGE and by analytical HPLC.

<b>Relevant Links:</b>	<ul style="list-style-type: none"><li>• <a href="#">UniProtKB - P31749</a></li><li>• <a href="#">GeneID - 207</a></li><li>• <a href="#">NCBI - 62241011</a></li></ul>
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## Application Details

<b>Tested Applications:</b>	SDS-PAGE, WB
<b>Application Note:</b>	Human AKT1 mutant recombinant protein has been tested in SDS-Page and western blot and is suitable as a control protein for immunoassays using antibodies targeting the T308 or S473 key phosphorylation sites. For western blot use at 50 ng or less. For other assays concentration is user optimized.
<b>Assay Dilutions:</b>	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
<b>WB:</b>	50ng

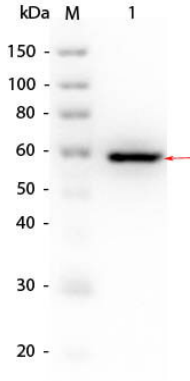
## Formulation

<b>Physical State:</b>	Liquid
<b>Concentration:</b>	1.1mg/ml by UV absorbance at 280 nm
<b>Buffer:</b>	20 mM Tris pH8, 300 mM NaCl with 10% glycerol
<b>Preservative:</b>	None
<b>Stabilizer:</b>	10% (v/v) Glycerol

## Shipping & Handling

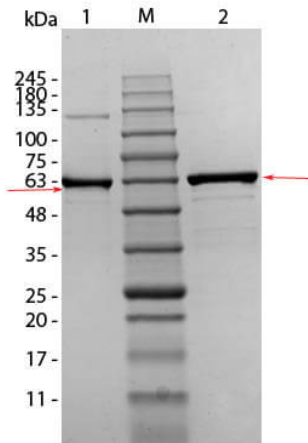
<b>Shipping Condition:</b>	Dry Ice
<b>Storage Condition:</b>	Store vial at -70° C prior to use. Thaw only prior to immediate use. Maintain sterility. This product DOES NOT contain preservative. DO NOT VORTEX. For long term storage we recommend adding a carrier protein such as HSA or BSA to 0.1% (i.e. 1.0 mg/mL) . For best results aliquot contents and freeze at -20° C or colder. Avoid cycles of freezing and thawing. Centrifuge vial before each opening to dislodge contents from the cap and to clarify if contents are not clear after standing at room temperature.
<b>Expiration:</b>	Expiration date is one (1) year from date of receipt.

## Images



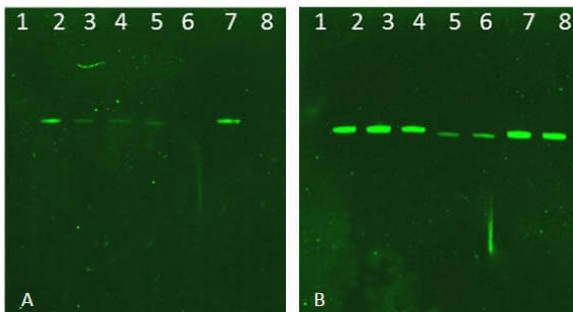
#### Western Blot

Western Blot of AKT1 (S473A, T308A) Human Recombinant Protein. Lane 1: SuperSignal MW markers. Lane 2: AKT1. Load: 50 ng per lane. Primary antibody: AKT1 antibody at 1:1,000 for 3.5 hours at room temperature. Secondary antibody: Peroxidase mouse secondary antibody at 1:20,000 for 1 hour at room temperature. Block: Blocking Buffer for Fluorescent Western Blotting (MB-070), overnight at 4°C. Predicted/Observed size: 56kDa, 56kDa for AKT1. Other band(s): none.



#### SDS-PAGE

SDS-PAGE of AKT1 (S473A, T308A) Human Recombinant Protein. Lane 1: AKT1 (S473A, T308A) unreduced. Lane 2: prestained MW markers. Lane 3: AKT1 (S473A, T308A), reduced. Load: 1 µg per lane. Predicted/Observed size: 56 kDa, ~56 kDa for AKT1 (S473A, T308A). Other band(s): none.



#### Western Blot

Western Blot of Rabbit AKT Antibodies. Lane 1: NIR MW protein ladder. Lane 2: AKT1, recombinant: 009-001-P21. Lane 3: AKT1, phosphatase-treated: 009-001-I51. Lane 4: AKT1, mutant T308A/S473A: 009-001-P22. Lane 5: AKT2, recombinant: 009-001-P23. Lane 6: AKT2, phosphatase-treated: 009-001-E71. Lane 7: AKT3, recombinant: 009-001-P24. Lane 8: AKT3, phosphatase-treated: 009-001-E75. Load: 50ng per lane. Blot A: 600-401-269 Anti-Akt pT308 used at 1:2270, Blot B: 100-401-401 Anti-Akt used 1:1000.

### Disclaimer

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. 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. All properties listed are typical characteristics and are not specifications. All suggestions and data are offered in good faith but without guarantee as conditions and methods of use of our products are beyond our control. All claims must be made within 30 days following the date of delivery. The prospective user must determine the suitability of our materials before adopting them on a commercial scale. Suggested uses of our products are not recommendations to use our products in violation of any patent or as a license under any patent of Rockland Immunochemicals, Inc. If you require a commercial license to use this material and do not have one, then return this material, unopened to: Rockland Inc., P.O. BOX 5199, Limerick, Pennsylvania, USA.