



AKT1 mutant (T308A/S473A) Human Recombinant Protein - 009-001-P22

Code: 009-001-P22

Size: 10 µg

Product Description: AKT1 mutant (T308A/S473A) Human Recombinant Protein - 009-001-P22

Concentration: 1.1mg/ml by UV absorbance at 280 nm

Physical State: Liquid

Label	Unconjugated
Host	Other - baculovirus
Gene Name	AKT1
Buffer	20 mM Tris pH8, 300 mM NaCl with 10% glycerol
Stabilizer	10% (v/v) Glycerol
Preservative	None
Storage Condition	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.
Synonyms	RAC, PKB, AKT, PKB alpha, AKT double mutant, AKT control, negative control
Application Note	AKT1 mutant protein 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.
Background	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.
Purity And Specificity	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.
Assay Dilutions	User Optimized
Western Blot	50ng
Other Assays	User Optimized
Expiration	Expiration date is one (1) year from date of opening.
General Reference	Madhunapantula SV, et al. The Akt signaling pathway: An emerging therapeutic target in malignant melanoma. <i>Cancer Biol Ther.</i> 2011 Dec 15;12(12) Gonzalez E, McGraw TE. The Akt kinases: isoform specificity in metabolism and cancer. <i>Cell Cycle.</i> 2009 Aug 15;8(16):2502-8
Related Products	
200-301-401	Anti-AKT (MOUSE) Monoclonal Antibody - 200-301-401
610-1302	Anti-MOUSE IgG (H&L) (GOAT) Antibody Peroxidase Conjugated - 610-1302
BSA-50	BOVINE SERUM ALBUMIN - Fraction V (Immunoglobulin and Protease Free) - BSA-50
MB-070	Blocking Buffer for Fluorescent Western Blotting - MB-070

Related Links

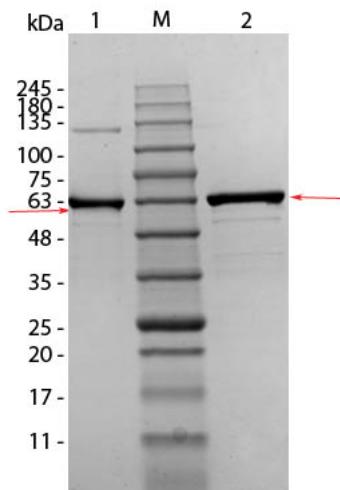
<http://www.uniprot.org/uniprot/P31749>

GeneID - 207 <http://www.ncbi.nlm.nih.gov/gene/207>

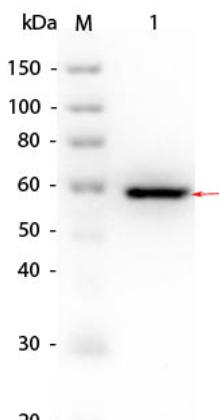
NCBI - 62241011

Images

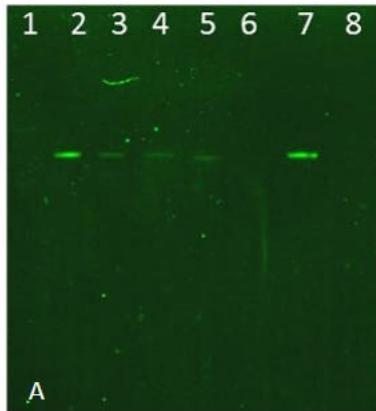
1 SDS-PAGE of AKT1 (S473A, T308A) Human Recombinant Protein. Lane 1: AKT1 (S473A, T308A) unreduced. Lane 2: prestained MW markers. Lane 3: AKT1 (S473A, T308A), reduced. Load: 1 µg per lane. Predicted/Observed size: 56 kDa, ~56 kDa for AKT1 (S473A, T308A). Other band(s): none.



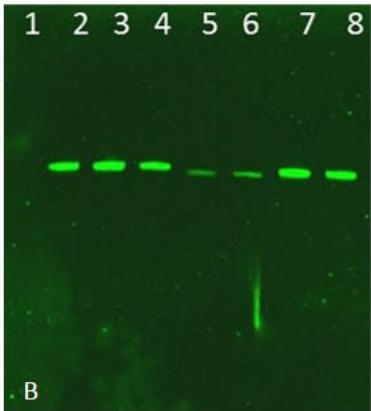
2 Western Blot of AKT1 (S473A, T308A) Human Recombinant Protein. Lane 1: SuperSignal MW markers. Lane 2: AKT1. Load: 50 ng per lane. Primary antibody: AKT1 antibody at 1:1,000 for 3.5 hours at room temperature. Secondary antibody: Peroxidase mouse secondary antibody at 1:20,000 for 1 hour at room temperature.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



3 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.



A



B

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