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Datasheet for ABIN7505048

## AKT1 Protein (AA 1-123) (His tag)



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Quantity:	100 μg
Target:	AKT1
Protein Characteristics:	AA 1-123
Origin:	Human
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Purification tag / Conjugate:	This AKT1 protein is labelled with His tag.

#### **Product Details**

Sequence:	Met 1-Gly 123
Characteristics:	A DNA sequence encoding the Human AKT1 protein (P31749) (Met 1-Gly 123) was expressed with a N-His tag.
Purity:	> 95 % as determined by reducing SDS-PAGE.

### Target Details

Target:	AKT1
Alternative Name:	AKT1 (AKT1 Products)
Background:	Abbreviation: AKT1
	Target Synonym: AKT,CWS6,PKB,PKB-ALPHA,PRKBA,RAC,RAC-ALPHA
	Background: v-akt murine thymoma viral oncogene homolog 1 (AKT1), or protein kinase B-
	alpha (PKB-ALPHA) is a serine-threonine protein kinase, belonging to the Protein Kinase

Superfamily. AKT1 is a major mediator of the responses to insulin, insulin-like growth factor 1 (IGF1), and glucose. AKT1 also plays a key role in the regulation of both muscle cell hypertrophy and atrophy. AKT1 activity is required for physiologic cardiac growth in response to IGF1 stimulation or exercise training. In contrast, AKT1 activity was found to antagonize pathologic cardiac growth that occurs in response to endothelin 1 stimulation or pressure overload. AKT1 selectively promotes physiological cardiac growth while AKT2 selectively promotes insulinstimulated cardiac glucose metabolism. AKT1 deletion prevented tumor initiation as well as tumor progression, coincident with decreased Akt signaling in tumor tissues. AKT1 is the primary Akt isoform activated by mutant K-ras in lung tumors, and that AKT3 may oppose AKT1 in lung tumorigenesis and lung tumor progression. A number of separate studies have implicated AKT1 as an inhibitor of breast epithelial cell motility and invasion. AKT1 may have a dual role in tumorigenesis, acting not only pro-oncogenically by suppressing apoptosis but also anti-oncogenically by suppressing invasion and metastasis.

Molecular Weight:

Calculated MW: 13.42 kDa
Observed MW: 15 kDa

UniProt:

P31749

Pathways:

PI3K-Akt Signaling, RTK Signaling, TCR Signaling, AMPK Signaling, Interferon-gamma Pathway, TLR Signaling, Fc-epsilon Receptor Signaling Pathway, EGFR Signaling Pathway, Neurotrophin Signaling Pathway, Response to Water Deprivation, Regulation of Actin Filament Polymerization, Carbohydrate Homeostasis, Glycosaminoglycan Metabolic Process, Cellular Glucan Metabolic Process, Regulation of Muscle Cell Differentiation, Cell-Cell Junction Organization, Regulation of Cell Size, Skeletal Muscle Fiber Development, Regulation of Carbohydrate Metabolic Process, Hepatitis C, Protein targeting to Nucleus, CXCR4-mediated Signaling Events, Signaling Events mediated by VEGFR1 and VEGFR2, Negative Regulation of intrinsic apoptotic Signaling, Thromboxane A2 Receptor Signaling, Signaling of Hepatocyte Growth Factor Receptor, Positive Regulation of fat Cell Differentiation, VEGFR1 Specific Signals, VEGF Signaling, Warburg Effect

#### **Application Details**

Restrictions: For Research Use only

Handling

Format: Lyophilized

Buffer: Lyophilized from sterile PBS, pH 7.4.

### Handling

	Normally 5 $\%$ - 8 $\%$ trehalose, mannitol and 0.01 $\%$ Tween80 are added as protectants before lyophilization.
Storage:	4 °C,-20 °C,-80 °C
Storage Comment:	Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C.  Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.
Expiry Date:	12 months