RP03139

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Recombinant Human AKT1 Protein

Catalog No.: RP03139 Recombinant

Sequence Information

Species	Gene ID	Swiss Prot
Baculovirus-Insect Cells	207	P31749

Tags
C-His

Synonyms
AKT; PKB; RAC; PRKBA; PKB-ALPHA; RAC-ALPHA

Product Information

Source	Purification
Baculovirus-Insect Cells	> 87% by SDS-PAGE.

Endotoxin
< 1 EU/μg of the protein by LAL method.

Formulation
Lyophilized from a 0.22 μm filtered solution of 50mM Tris, 100mM NaCl, 3mM DTT, 0.5mM PMSF, 5% Glycerol, pH 8.0. Contact us for customized product form or formulation.

Reconstitution
Centrifuge the vial before opening. Reconstitute to a concentration of 0.1-0.5 mg/mL in sterile distilled water. Avoid vortex or vigorously pipetting the protein. For long term storage, it is recommended to add a carrier protein or stablizer (e.g. 0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose), and aliquot the reconstituted protein solution to minimize free-thaw cycles.

Contact

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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 insulin-stimulated 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.

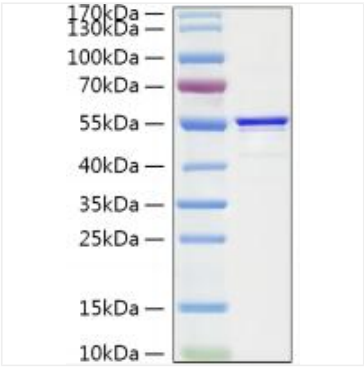
Basic Information

Description
Recombinant Human AKT1 Protein is produced by Baculovirus-Insect Cells expression system. The target protein is expressed with sequence (Met1-Ala480) of human AKT1 (Accession #NP_001014431.1) fused with His tag at the C-terminus.

Bio-Activity

Storage
Store at -20℃.Store the lyophilized protein at -20℃ to -80 ℃ up to 1 year from the date of receipt.
After reconstitution, the protein solution is stable at -20℃ for 3 months, at 2-8℃ for up to 1 week.
Avoid repeated freeze/thaw cycles.

Validation Data



Recombinant Human AKT1 Protein was determined by SDS-PAGE with Coomassie Blue, showing a band at 56 kDa.