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Recombinant Human AKT1/PKB alpha Kinase

Catalog No.: RP03396LQ Recombinant

Sequence Information

Species	Gene ID	Swiss Prot
Human	207	P31749

Tags
N-GST

Synonyms
AKT1; PKB; RAC; Protein kinase B alpha; PKB alpha; RAC-PK-alpha; c-Akt; RAC-alpha serine/threonine-protein kinase

Product Information

Source	Purification
Baculovirus-Insect Cells	≥ 90 % as determined by SDS-PAGE;≥ 90 % as determined by HPLC.

Calculated MW	Observed MW
82.2 kDa	70-85 kDa

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

Formulation
Supplied as a 0.22 μm filtered solution in 50 mM Tris-HCl, 150 mM NaCl, 20% glycerol. (pH 7.5). Contact us for customized product form or formulation.

Reconstitution
Please use running water to thaw it quickly.

Contact

400-999-6126

cn.market@abclonal.com.cn

www.abclonal.com.cn

Background

RAC(Rho family)-alpha serine/threonine-protein kinase is an enzyme that in humans is encoded by the AKT1 gene. This enzyme belongs to the AKT subfamily of serine/threonine kinases that contain SH2 (Src homology 2-like) protein domains. It is commonly referred to as PKB, or by both names as "Akt/PKB". The serine-threonine protein kinase AKT1 is catalytically inactive in serum-starved primary and immortalized fibroblasts. AKT1 and the related AKT2 are activated by platelet-derived growth factor. The activation is rapid and specific, and it is abrogated by mutations in the pleckstrin homology domain of AKT1. It was shown that the activation occurs through phosphatidylinositol 3-kinase. In the developing nervous system AKT is a critical mediator of growth factor-induced neuronal survival. Survival factors can suppress apoptosis in a transcription-independent manner by activating the serine/threonine kinase AKT1, which then phosphorylates and inactivates components of the apoptotic machinery. Mice lacking Akt1 display a 25% reduction in body mass, indicating that Akt1 is critical for transmitting growth-promoting signals, most likely via the IGF1 receptor. Mice lacking Akt1 are also resistant to cancer: They experience considerable delay in tumor growth initiated by the large T antigen or the Neu oncogene. A single-nucleotide polymorphism in this gene causes Proteus syndrome.

Basic Information

Description
Recombinant Human AKT1/PKB alpha Kinase is produced by Baculovirus-Insect Cells expression system. The target protein is expressed with sequence (Met1-Ala480) of Human AKT1 (Accession #P31749) fused with a N-GST tag.

Bio-Activity
The activity of AKT1 is based on the MSA technology, and the content and ratio of the substrate and the product are directly separated and detected in real time and dynamically by the different migration rates of the substrate and the product after the enzymatic reaction.

Shipping
The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Storage
Store at -70°C. This product is stable at ≤ -70°C for up to 1 year from the date of receipt. For optimal storage, aliquot into smaller quantities after centrifugation and store at recommended temperature.
Aliquots below 10 μL are not advisable. Product must not be stored in diluted solutions. Avoid repeated freeze-thaw cycles.
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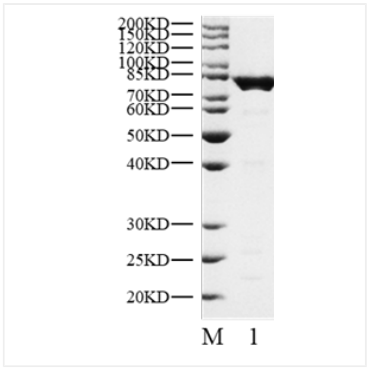
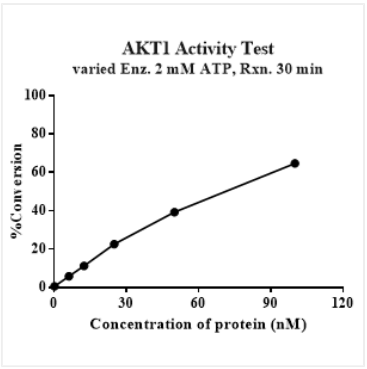
Operational Notes
For your safety and health, please wear a lab coat and disposable gloves for handling.

Validation Data



Recombinant Human AKT1/PKB alpha Kinase was resolved with SDS-PAGE under reducing (Lane 1) conditions.



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