

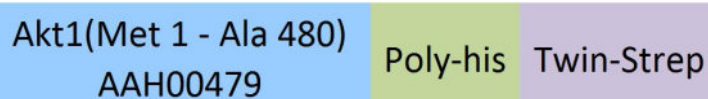
Synonym

AKT1,PKB,RAC,RAC-PK-alpha,PKB alpha

Source

Human Akt1, His,Strep II Tag(AK1-H5283) is expressed from human 293 cells (HEK293). It contains AA Met 1 - Ala 480 (Accession # [AAH00479](#)).

Predicted N-terminus: Met

Molecular Characterization

This protein carries a polyhistidine tag at the C-terminus, followed by a twin strep tag. The protein has a calculated MW of 59.5 kDa. The protein migrates as 60-66 kDa under reducing (R) condition (SDS-PAGE) due to glycosylation.

Endotoxin

Less than 1.0 EU per µg by the LAL method.

Purity

>92% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 µm filtered solution in 20 mM Tris, 150 mM NaCl, pH8.0 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

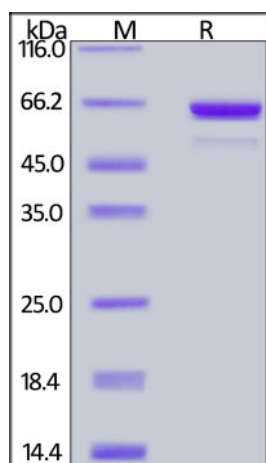
Storage

For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE

Human Akt1, His,Strep II Tag on SDS-PAGE under reducing (R) condition.

The gel was stained overnight with Coomassie Blue. The purity of the protein is greater than 92%.

Background

RAC-alpha serine/threonine-protein kinase (AKT1) is also known PKB, Protein kinase B alpha, PKB alpha, Proto-oncogene c-Akt and RAC-PK-alpha, which belongs to the protein kinase superfamily, AGC Ser/Thr protein kinase family and RAC subfamily and is expressed in prostate cancer and levels increase from the normal to the malignant state (at protein level). AKT1 is one of 3 closely related serine/threonine-protein kinases (AKT1, AKT2 and AKT3) called the AKT kinase, and which regulate many processes including metabolism, proliferation, cell survival, growth and angiogenesis. AKT is responsible of the regulation of glucose uptake by mediating insulin-induced translocation of the SLC2A4/GLUT4 glucose transporter to the cell surface. AKT regulates also the storage of glucose in the

form of glycogen by phosphorylating GSK3A at Ser-21 and GSK3B at Ser-9, resulting in inhibition of its kinase activity. Phosphorylation of GSK3 isoforms by AKT is also thought to be one mechanism by which cell proliferation is driven. AKT regulates also cell survival via the phosphorylation of MAP3K5 (apoptosis signal-related kinase).

Clinical and Translational Updates

Please contact us via TechSupport@acrobiosystems.com if you have any question on this product.