

AKT1 recombinant protein

Recombinant AKT1 protein

CATALOG #
AAA60154

HOST
Baculovirus

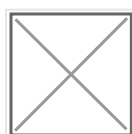
PRODUCT SYNONYMS

AKT1; Recombinant AKT1 protein; AKT; PKB; RAC; CWS6; PRKBA; PKB-ALPHA; RAC-ALPHA; AKT1 recombinant protein

PRODUCT SPECIFICATIONS

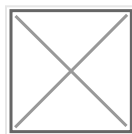
Host	Baculovirus
Form/Format	Recombinant AKT1 protein is supplied in 25mM HEPES-NaOH pH7.5, 300mM NaCl, 10% glycerol, 0.04% Triton X-100, and 0.5mM TCEP.
Concentration	0.4ug/ul (varies by lot)
Protein Species	Human
Tag	N-terminal 6xHis and DYKDDDDK tag
Notes	This product was manufactured as described in Protein Details. Where possible, We has developed functional or activity assays for recombinant proteins. Additional characterization such as enzyme kinetic activity assays, inhibitor screening or other biological activity assays may not have been performed for every product. All available data for a given product is shown on the lot-specific Technical Data Sheet.
Dry Ice Note	The product may be shipped with dry ice, and an additional fee may be added to your shipping cost.
Preparation and Storage	Recombinant proteins in solution are temperature sensitive and must be stored at -80 degree C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. Shipping Temp: Dry Ice

IMAGES



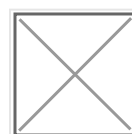
Application Data

HTRF assay for recombinant AKT1 protein activity 1 uM STK S3 substrate was incubated with different concentrations AKT1 protein a 10 ul reaction system containing 1xEnzymatic Buffer, 5 mM MgCl₂, 1 mM DTT, 5 nM SEB and 100 uM ATP for 1 hour. The 10 ul detection reagents containing STK antibody and SA-XL665, each of which was 1:100 diluted with 1x Detection Buffer were added and incubated with the reactions for 30 min. All the operations and reactions were performed at room temperature. HTRF KinEASE STK assay was used to detect the enzymatic activity.



SDS-PAGE

Recombinant AKT1 protein gel 10% SDS-PAGE Coomassie staining MW: 60.5 kDa Purity: 795%



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ADDITIONAL INFORMATION

Related Product Information for AKT1 recombinant protein	Recombinant AKT1 protein was expressed in a baculovirus expression system as the full length protein (accession number NP_005154.2) with an N-terminal 6Å-His and DYKDDDDK tag. The molecular weight of the protein is 60.5 kDa. Background: AKT1 (AKT Serine/Threonine Kinase 1), also known as Protein Kinase B Alpha, PRKBA or PKB Alpha, 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. This is mediated through serine and/or threonine phosphorylation of a range of downstream substrates. Over 100 substrate candidates have been reported so far, but for most of them, no isoform specificity has been reported. AKT is responsible of the regulation of glucose uptake and the storage of glucose. It also regulates cell survival via the phosphorylation of MAP3K5 (apoptosis signal-related kinase), mediates insulin-stimulated protein synthesis by phosphorylating TSC2. AKT is involved in the phosphorylation of members of the FOXO factors (Forkhead family of transcription factors), leading to binding of 14-3-3 proteins and cytoplasmic localization. AKT has an important role in the regulation of NF-kappa-B-dependent gene transcription and positively regulates the activity of CREB1 (cyclic AMP (cAMP)-response element binding protein). The Rho GTPase-activating protein DLC1 is another substrate and its phosphorylation is implicated in the regulation cell proliferation and cell growth. AKT plays a role as key modulator of the AKT-mTOR signaling pathway controlling the correct neuron positioning, dendritic development and synapse formation. AKT1-specific substrates have been recently identified, including palladin (PALLD), which phosphorylation modulates cytoskeletal organization and cell motility; prohibitin (PHB), playing an important role in cell metabolism and proliferation; and CDKN1A, for which phosphorylation at Thr-145 induces its release from CDK2 and cytoplasmic relocation. These recent findings indicate that the AKT1 isoform has a more specific role in cell motility and proliferation.
Product Categories/Family for AKT1 recombinant protein	Recombinant Proteins; Kinase

NCBI AND UNIPROT INFORMATION

NCBI GI #	62241011
NCBI GeneID	207
NCBI Accession #	NP_005154.2
NCBI GenBank Nucleotide #	NM_005163.2
UniProt Accession #	P31749; Q9BWB6; B2RAM5; B7Z5R1
Molecular Weight	48,347 Da
NCBI Official Full Name	RAC-alpha serine/threonine-protein kinase
NCBI Official Synonym Full Names	v-akt murine thymoma viral oncogene homolog 1
NCBI Official Symbol	AKT1
NCBI Official Synonym Symbols	AKT; PKB; RAC; CWS6; PRKBA; PKB-ALPHA; RAC-ALPHA
NCBI Protein Information	RAC-alpha serine/threonine-protein kinase; AKT1m; PKB alpha; RAC-PK-alpha; proto-oncogene c-Akt; protein kinase B alpha; rac protein kinase alpha
UniProt Protein Name	RAC-alpha serine/threonine-protein kinase
UniProt Gene Name	AKT1
UniProt Synonym Gene Names	PKB; RAC; PKB; PKB alpha
UniProt Entry Name	AKT1_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

