Recombinant Human AKT3, Active, His-tagged

Cat. No. AKT3-165H **Lot. No.** (See product label)

SPECIFICATION

Species	Human
Source	Sf9 Cells
Description	N-terminal His-tagged full-length protein. Protein kinase B or Akt (PKB/Akt) is a serine/threonine kinase, which in mammals comprises three highly homologous members known as PKB (Akt1), PKB (Akt2), and PKB (Akt3). PKB/Akt is activated in cells exposed to diverse stimuli such as hormones, growth factors, and extracellular matrix components. The Thr-308 residue in the kinase domain and Ser 473 residue in the tail domain of Akt1 need to be phosphorylated by 3-phosphoinositide-dependent protein kinase-1 (PDK1) and 3-phosphoinositide-dependent protein kinase-2 (PDK2), respectively, for its maximal activation. The corresponding phosphorylation sites in Akt2 (Thr-309 and Ser-474) and Akt3 (Thr-305 and Ser- 472) have been identified, and Akt2 and Akt3 appear also to be regulated by PDK1 and PDK2. A limited number of studies of the expression pattern of the three Akt isoforms reveal Akt1 and Akt2 are ubiquitous, whereas Akt3 is expressed predominantly in brain, heart, and kidney. The activation mechanism remains to be fully characterised but occurs downstream of phosphoinositide 3-kinase (PI-3K). PI-3K generates phosphatidylinositol-3,4,5 trisphosphate (PIP(3)), lipid second messenger essential for the translocation of PKB/Akt to the plasma membrane where it is phosphorylated and activated by phosphoinositidedependent kinase-1 (PDK-1) and possibly other kinases. PKB/Akt phosphorylates and regulates the function of many cellular proteins involved in processes that include metabolism, apoptosis, and proliferation. Recent evidence indicates that PKB/Akt is frequently constitutively active in many types of human

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	cancer. The recombinant human Akt3 kinase (PKB) was expressed in Sf9 insect cells and purified by Ni-NTA agarose chromatography. It is suitable for labeling Akt3 kinase substrates. The sequence based calculated molecular weight is 58.7 kDa.
Form	Supplied in 50 mM Tris-HCl pH 8.5, 100 mM NaCl, 1 mM DTT and 50% glycerol.
Purity	> 95% by SDS-PAGE.
Usage	For in vitro use only.
nullValue_other	> 50,000 U/mg (1 Unit is defined as 1 picomole phosphate transferred to synthetic peptide RPRAATF per min at 30 °C).
Storage	Quality guaranteed for 12 months store at -80°C. Avoid freeze / thaw cycles.

GENE INFORMATION

Gene Name	AKT3 v-akt murine thymoma viral oncogene homolog 3 (protein kinase B, gamma) [Homo sapiens]
Synonyms	AKT3; v-akt murine thymoma viral oncogene homolog 3 (protein kinase B, gamma); PKBG; PRKBG; STK-2; PKB-GAMMA; RAC-gamma; RAC-PK-gamma; DKFZp434N0250; OTTHUMP00000037911; OTTHUMP00000037912; protein kinase B gamma; serine threonine protein kinase, Akt-3; RAC-gamma serine/threonine protein kinase; EC 2.7.11.1; RAC-gamma serine/threonine-protein kinase; Protein kinase B, gamma; PKB gamma
Gene ID	10000
mRNA Refseq	NM_005465
Protein Refseq	NP_005456

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MIM	611223
UniProt ID	Q9Y243
Chromosome Location	1q44
Pathway	Acute myeloid leukemia; Adipocytokine signaling pathway; Apoptosis; B cell receptor signaling pathway; Chemokine signaling pathway; Chronic myeloid leukemia; Colorectal cancer; Endometrial cancer; ErbB signaling pathway; Fc epsilon RI signaling pathway; Fc gamma R-mediated phagocytosis; Focal adhesion; Glioma; Insulin signaling pathway; Jak-STAT signaling pathway; MAPK signaling pathway; Melanoma; Neurotrophin signaling pathway; Non-small cell lung cancer; Pancreatic cancer; Pathways in cancer; Progesterone-mediated oocyte maturation; Prostate cancer; Renal cell carcinoma; Small cell lung cancer; T cell receptor signaling pathway; Tight junction; Toll-like receptor signaling pathway; VEGF signaling pathway; mTOR signaling pathway
Function	ATP binding; nucleotide binding; protein binding; protein serine/threonine kinase activity; transferase activity

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