

Akt1, Active recombinant protein
Akt, RAC-alpha serine/threonine-protein kinase
Catalog # PBV11277r**Specification**

Akt1, Active recombinant protein - Product info

Primary Accession	P31749
Concentration	0.1
Calculated MW	~85.0 kDa KDa

Akt1, Active recombinant protein - Additional Info

Gene ID	207
Gene Symbol	AKT1

Other Names

Akt, RAC-alpha serine/threonine-protein kinase

Source	Baculovirus (Sf9 insect cells)
Assay&Purity	SDS-PAGE; ≥90%
Assay2&Purity2	HPLC;
Recombinant	Yes

Format

Liquid

Storage

-80°C; Recombinant proteins in storage buffer (50 mM Tris-HCl, pH 7.5, 150 mM NaCl, 0.25 mM DTT, 0.1 mM EGTA, 0.1 mM EDTA, 0.1 mM PMSF, 25% glycerol).

Akt1, Active recombinant protein - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

Akt1, Active recombinant protein - Images**Akt1, Active recombinant protein - Background**

Akt1 or Protein Kinase B α (PKB α) is a serine/threonine kinase that belongs to the Akt family. Akt1 is activated in cells in response to diverse stimuli such as hormones, growth factors and extracellular matrix components and is involved in glucose metabolism, transcription, survival, cell proliferation, angiogenesis, and cell motility (1). The PI3K generates phosphatidylinositol-3,4,5-trisphosphate

(PIP3), a lipid second messenger essential for the translocation of Akt1 to the plasma membrane where it is phosphorylated and activated by phosphoinositide-dependent kinase-1 (PDK-1) (2) and phosphoinositide-dependent kinase-2 (possibly ILK) (3). Akt1 has numerous cellular substrates including proteins, which promote the inhibition of apoptosis such as the Forkhead transcription factors and the Bcl-2 family member Bad (4). In addition, the cyclin dependent kinase inhibitors are substrates of Akt which when phosphorylated relinquish their inhibitory influence on cell cycle progression. Akt also mediates many of the stimulatory effects of insulin on glucose metabolism through deactivation of glycogen synthase kinase, activation of phosphofructo-kinase, and modulation of glucose transporter activity. Akt1 has been shown to play a role in human cancers (4). It is frequently overexpressed and active in many types of human cancers including cancers of colon, breast, brain, pancreas and prostate as well as lymphomas and leukemias (5). Akt1 plays an important role in cancer cell survival and proliferation thereby contributing to cancer progression.

Akt1, Active recombinant protein - References

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Ota T.,et al.Nat. Genet. 36:40-45(2004).
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