

## AKT3 Protein, Human, Recombinant (E17K, GST)

### General Information

Protein Construction:	Recombinant full length human AKT3 (E17K) was expressed by baculovirus in Sf9 insect cells using an N-terminal GST tag.
Species:	Human
Expression Host:	Baculovirus-Insect Cells
Accession:	Q9Y243
Molecular Weight:	~85 kDa

### QC Testing

Biological Activity:	The specific activity of AKT3 (E17K) was determined to be 480 nmol /min/mg by radioactive kinase assay.
Purity:	>95% as determined by SDS-PAGE.
Formulation:	Supplied as sterile 50 mM Tris-HCl, pH 7.5, 150 mM NaCl, 10 mM glutathione, 0.1 mM EDTA, 0.25 mM DTT, 0.1 mM PMSF, 25% glycerol.

### Preparation and Storage

#### Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

*Actual storage temperature shall be subject to the COA.*

#### Shipping:

Enzymes are highly recommended to be shipped at frozen temperature with dry ice. Shipment made at ambient temperature may seriously affect the activity of the ordered products.

### Protein Background

v-akt murine thymoma viral oncogene homolog 3 (AKT3), also known as PKB-GAMMA, with AKT1/PKBalpha, AKT2/PKBbeta, are the members of Akt kinase family, share extensive structural similarity and perform common as well as unique functions within cells. The Akt signaling cascade initiates at the cell surface when growth factors or other extracellular stimuli activate phosphoinositide 3-kinase (PI3K). AKT3 was discovered to be the predominant isoform activated in sporadic melanomas. Levels of activity increased during melanoma progression with metastatic melanomas having the highest activity. Although mechanisms of AKT3 activation remain to be fully characterized, overexpression of AKT3 and decreased PTEN activity play important roles in this process. Targeted reduction of AKT3 activity decreased survival of melanoma tumor cells leading to inhibition of tumor development, which may be therapeutically effective for shrinking tumors in melanoma patients. AKT2 and AKT3 play an important role in the viability of human malignant glioma cells. Targeting AKT2 and AKT3 may hold promise for the treatment of patients with gliomas.

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