

## AKT3 Protein, Mouse, Recombinant (aa 106-479)

### General Information

Synonyms:	D930002M15Rik;AI851531;Nmf350;v-akt murine thymoma viral oncogene homolog 3
Protein Construction:	A DNA sequence encoding the AKT3 (Q9WUA6-1) (Ala106-Glu479) was expressed and purified. Predicted N terminal: Gly
Species:	Mouse
Expression Host:	Baculovirus Insect Cells
Accession:	Q9WUA6-1
Molecular Weight:	43.4 kDa (predicted); 46 kDa (reducing conditions)

### QC Testing

Biological Activity:	The specific activity was determined to be 20 nmol/min/mg using synthetic GSK3-derived peptide (R11-SGRARTSSFAEPGGK) as substrate.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Supplied as sterile 20 mM Tris, 500 mM NaCl, 10% glycerol, pH 7.4.

### Preparation and Storage

#### Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### Stability & Storage:

It is recommended to store the product under sterile conditions at -20°C to -80°C. Samples are stable for up to 12 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

Proteins are shipped with blue ice.

### 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.

### Reference

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- Cristiano BE, et al. (2006) A specific role for AKT3 in the genesis of ovarian cancer through modulation of G(2)-M phase transition. *Cancer Res.* 66(24): 11718-25.
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