

# Human AKT3 Protein (GST Tag)

Catalog Number: 10765-H09B



**Sino Biological Inc.**

Biological Solution Specialist

## General Information

### Gene Name Synonym:

MPPH; MPPH2; PKB-GAMMA; PKBG; PRKBG; RAC-gamma; RAC-PK-gamma; STK-2; AI851531; D930002M15Rik; Nmf350

### Protein Construction:

A DNA sequence encoding the full length of human PKBG (NP\_005456.1) (Met 1-Glu 479) was expressed with the GST tag at the N-terminus.

**Source:** Human

**Expression Host:** Baculovirus-Insect Cells

## QC Testing

**Purity:** > 95 % as determined by SDS-PAGE

### Bio Activity:

**No Kinase Activity**

### Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

### Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

**Predicted N terminal:** Met

### Molecular Mass:

The recombinant human PKBG/GST chimera consists of 704 amino acids and predicts a molecular mass of 81 kDa which is also estimated by SDS-PAGE.

### Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

## Usage Guide

### Storage:

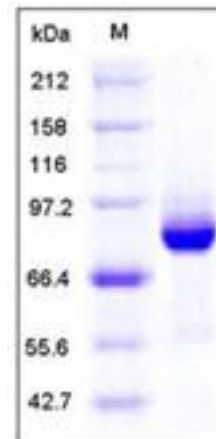
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

**Avoid repeated freeze-thaw cycles.**

### Reconstitution:

Detailed reconstitution instructions are sent along with the products.

## SDS-PAGE:



## Protein Description

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.

## References

1. Mure H, *et al.* (2010) Akt2 and Akt3 play a pivotal role in malignant gliomas. *Neuro Oncol.* 12(3): 221-32.
2. Koseoglu S, *et al.* (2007) AKT1, AKT2 and AKT3-dependent cell survival is cell line-specific and knockdown of all three isoforms selectively induces apoptosis in 20 human tumor cell lines. *Cancer Biol Ther.* 6(5): 755-62.
3. 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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