



## PKC beta II (Human), Active

### Full-length recombinant protein expressed in Sf9 cells

Cat# CY-SPP63

Lot No. H342-1  
5 µg 0.1 µg/µl

#### Background:

PKCβII (PKCbetaII) is a member of the protein kinase C (PKC) family of serine- and threonine-specific protein kinases that can be activated by calcium and second messenger diacylglycerol and phosphorylate a wide variety of protein targets known to be involved in diverse cellular signaling pathways (1). PKCβII has been reported to be involved in many different cellular functions such as B cell activation, apoptosis induction, endothelial cell proliferation, and intestinal sugar absorption (2).

#### Product Description:

Recombinant full-length human PKCβII was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag. The gene accession number is NM\_002738.

#### Gene Aliases:

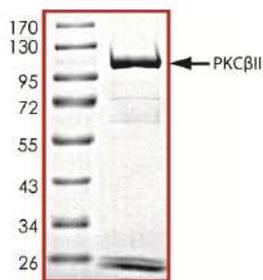
PRKCB1; PKCB2; PRKCB1; PRKCB (X07109)

#### Formulation:

Recombinant protein stored in 50mM Tris-HCl, pH 7.5, 150mM NaCl, 0.25mM DTT, 0.1mM EGTA, 0.1mM EDTA, 0.1mM PMSF, 25% glycerol.

#### Purity & Molecular Weight:

The purity was determined to be >90% by densitometry. Approx. MW 105kDa.



#### Storage:

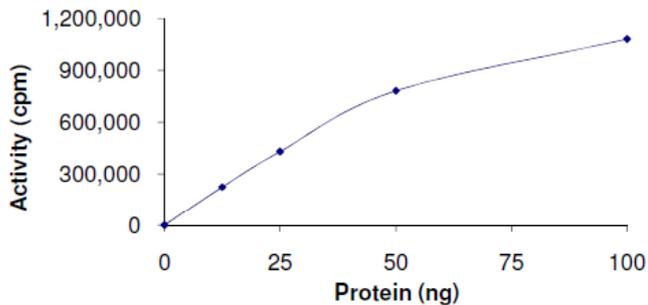
Store product at -70 °C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

#### Stability:

Unopened vial at -70 °C, 1 year from date of shipment.

**Specific Activity:**

The specific activity was determined to be 420 nmol/min/mg as per Activity Assay Protocol.

**Activity Assay Protocol:**

Assay activity of the kinase in a 25  $\mu$ L reaction consisting of 5  $\mu$ L of 5 X Kinase Assay Buffer, 7.5  $\mu$ L of 1 mg/ml the Substrate Solution, 2.5  $\mu$ L of lipid activator (0.5 mg/ml phosphatidylserine and 0.05 mg/ml diacylglycerol in 20 mM MOPS, pH 7.2, containing 1 mM  $\text{CaCl}_2$ ), 5  $\mu$ L of diluted kinase and 5  $\mu$ L of 250  $\mu$ M ATP solution containing [ $\gamma$ - $^{32}$ P] ATP (0.167  $\mu$ Ci/ $\mu$ L). Start the reaction by adding the ATP solution. Incubate for 15 minutes at 30°C. Terminate the reaction by spotting 20  $\mu$ L of the reaction mixture onto phosphocellulose P81 paper. Air-dry the P81 paper and sequentially wash 4 times for approximately 10 minutes each in 1% phosphoric acid with constant gentle stirring. Count the P81 paper in a liquid scintillation counter.

**Substrate Solution:**

CREBtide synthetic peptide substrate (KRREILSRPSPYR) diluted in distilled  $\text{H}_2\text{O}$  to a final concentration of 1 mg/ml.

**5 X Kinase Assay Buffer:**

25mM MOPS, 12.5mM  $\beta$ -glycerol-phosphate, 25mM  $\text{MgCl}_2$ , 5mM EGTA, 2mM EDTA. Add 0.25mM DTT to Kinase Assay Buffer prior to use.

**References:**

- 1.Greenham, J. et al: Elucidation of the exon-intron structure and size of the human protein kinase C beta gene (PRKCB). Hum. Genet. 103: 483-487, 1998.
- 2.Su, T T. et al: PKC-beta controls I-kappa-B kinase lipid raft recruitment and activation in response to BCR signaling. Nature Immun. 3: 780-786, 2002.

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