

SGK1 (Human), Active

Recombinant protein expressed in Sf9 cells

Cat# CY-SPS06

Lot No. B083-1
5 µg 0.1 µg/µl

Background:

SGK1 is a member of the serum- and glucocorticoid-induced protein kinase that is activated in vitro by 3-phosphoinositide-dependent protein kinase-1 (PDK1) and in vivo in response to signals that activate phosphatidylinositol (PI) 3-kinase (1). SGK1 mRNA is expressed in all tissues and the level of SGK1 mRNA is increased by stimulation with serum or dexamethasone.

SGK1 promotes cell survival by phosphorylating and inactivating FKHRL1 (2). SGK and Akt display differences with respect to the efficacy with which they phosphorylate the three regulatory sites on FKHRL1.

Product Description:

Recombinant human SGK1 (60-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag. The gene accession number is NM_005627.

Gene Aliases:

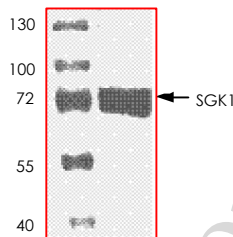
SGK

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 >95% by densitometry. Approx. MW 73kDa.



Storage:

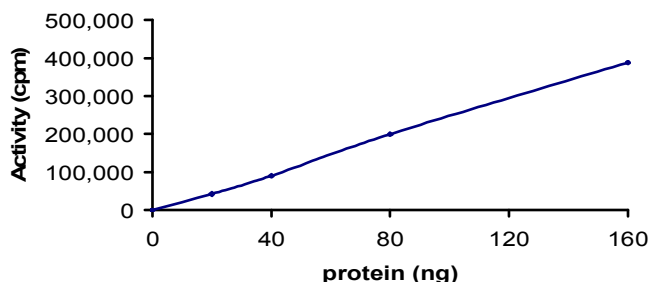
Store product at -70°C . For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

Stability:

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

**Specific Activity:**

The specific activity was determined to be 117 nmol/min/mg as per Activity Assay Protocol.

**Activity Assay Protocol:**

Assay activity of the kinase in a 25 μ L reaction consisting of 5 μ L of 5 X Kinase Assay Buffer, 10 μ L of 1 mg/ml the Substrate Solution, 5 μ L of diluted kinase and 5 μ L of 250 μ M ATP solution containing [γ - 32 P] ATP (0.167 μ Ci/ μ L). Start the reaction by adding the ATP solution. Incubate for 15 minutes at 30°C. Terminate the reaction by spotting 20 μ 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:

SGK synthetic peptide substrate (RPRAATF) diluted in distilled H₂O to a final concentration of 1 mg/ml.

5 X Kinase Assay Buffer:

25mM MOPS, 12.5mM β -glycerol-phosphate, 25mM MgCl₂, 5mM EGTA, 2mM EDTA. Add 0.25mM DTT to Kinase Assay Buffer prior to use.

References:

- 1.Kobayashii, T. et al: Characterization of the structure and regulation of two novel isoforms of serum- and glucocorticoid-induced protein kinase. *Biochem J.* 1999 Nov 15;344 Pt 1:189-97.
- 2.Brunet, A. et al: Protein kinase SGK mediates survival signals by phosphorylating the forkhead transcription factor FKHRL1 (FOXO3a). *Mol Cell Biol.* 2001 Feb;21(3):952-65.

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