SGK2 (Human), Active

Full-length recombinant protein expressed in Sf9 cells

Cat# CY-SPS07

Lot No. B144-2
5 µg 0.1 µg/µl

Background:

SGK2 is a member of the serum- and glucocorticoid-induced kinases (SGK) which are serine-threonine kinases and belong to the "AGC" kinase subfamily, which includes protein kinases A, G, and C, and its catalytic domain is most similar to protein kinase B (PKB) (1). SGK2, like the other two isoforms SGK1 and SGK3, is stimulated by insulin and insulin-like growth factor-1 (IGF-1), and has been shown to enhance Na(+)/K(+)-ATPase activity in a variety of cells (2).

Product Description:

Recombinant full-length human SGK2 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag. The gene accession number is NM_170693.

Gene Aliases:

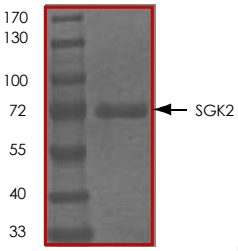
H-SGK2; dJ138B7.2

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 71kDa.



Storage:

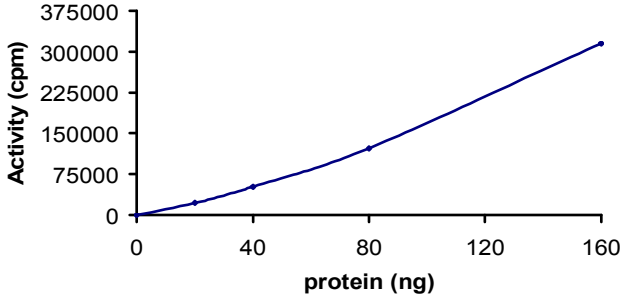
Store product at –70 °C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

Stability:

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

Specific Activity:

The specific activity was determined to be 82 nmol/min/mg as per Activity Assay Protocol.



Activity Assay Protocol:

Assay activity of the kinase in a 25 µL reaction consisting of 5 µL of 5 X Kinase Assay Buffer, 10 µL of 1 mg/ml the Substrate Solution, 5 µL of diluted kinase and 5 µL of 250 µM ATP solution containing [gamma ^{32}P] ATP (0.167 µCi/µL). Start the reaction by adding the ATP solution. Incubate for 15 minutes at 30°C. Terminate the reaction by spotting 20 µL 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 H_2O to a final concentration of 1 mg/ml.

5 X Kinase Assay Buffer:

25mM MOPS, 12.5mM β-glycerol-phosphate, 25mM $MgC1_2$, 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.Boehmer, C. et al: Stimulation of renal Na+ dicarboxylate cotransporter 1 by Na+/H+ exchanger regulating factor 2, serum and glucocorticoid inducible kinase isoforms, and protein kinase B. Biochem Biophys Res Commun. 2004 Jan 23;313(4):998-1003.

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