

RSK3 (Human), Active

Full-length recombinant protein expressed in Sf9 cells

Cat# CY-SPR16

Lot No. K212-2
5 µg 0.1 µg/µl

Background:

RSK3 is a member of the RSK (ribosomal S6 kinase) family that encodes a 733-amino-acid protein with a unique N-terminal region containing a putative nuclear localization signal (1). RSK3 mRNA is widely expressed and is activated by growth factors, serum and phorbol ester. Upon stimulation, RSK3 translocates to the cell nucleus and phosphorylates nuclear proteins. RSK3 can bind to ERK1/2 and this association increases the duration of RSK3 activation (2).

Product Description:

Recombinant full-length human RSK3 was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag. The gene accession number is NM_021135.

Gene Aliases:

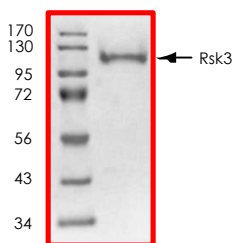
RPS6KA2; HU-2, MAPKAPK1C, S6K-alpha, S6K-alpha2, p90-RSK3, pp90RSK3

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 112kDa.



Storage:

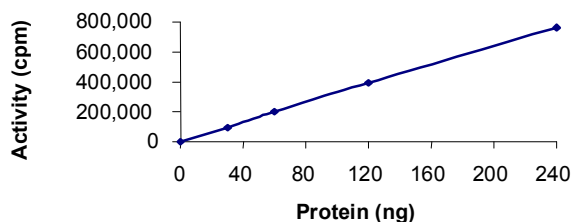
Store product at -70 °C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

Stability:

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

**Specific Activity:**

The specific activity was determined to be 131 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:

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

5 X Kinase Assay Buffer:

25mM MOPS, pH 7. 2, 12.5mM β -glycerol-phosphate, 25mM MgCl₂, 5mM EGTA, 2mM EDTA. Add 0.25mM DTT to Kinase Assay Buffer prior to use.

References:

1. Zhao, Y. et al: RSK3 encodes a novel pp90rsk isoform with a unique N-terminal sequence: growth factor-stimulated kinase function and nuclear translocation. Mol Cell Biol. 1995 Aug;15(8):4353-63.
2. Roux, P P. et al: Phosphorylation of p90 ribosomal S6 kinase (RSK) regulates extracellular signal-regulated kinase docking and RSK activity. Mol Cell Biol. 2003 Jul;23(14):4796-804.

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