

MAPKAPK2 (Human), Active

Recombinant human protein expressed in Sf 9 cells

Cat# CY-SPM40

Lot No. B150-1
5 µg 0.1 µg/µl

Background:

MAPKAPK2 (MAPKAP kinase2) is a Ser/Thr protein kinase which is regulated via direct phosphorylation by p38 MAP kinase (1). In conjunction with p38 MAP kinase, MAPKAPK2 is known to be involved in many cellular processes including stress and inflammatory responses, nuclear export, gene expression regulation and cell proliferation. Heat shock protein HSP27 has been shown to be one of the substrates of MAPKAPK2 in vivo.

Product Description:

Recombinant human MAPKAPK2 (46-end) was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag. The gene accession number is NM_032960.

Gene Aliases:

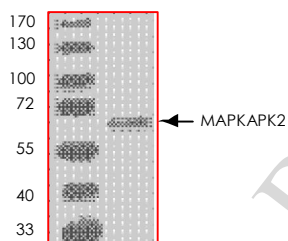
(2 isoforms)

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 68kDa.



Storage:

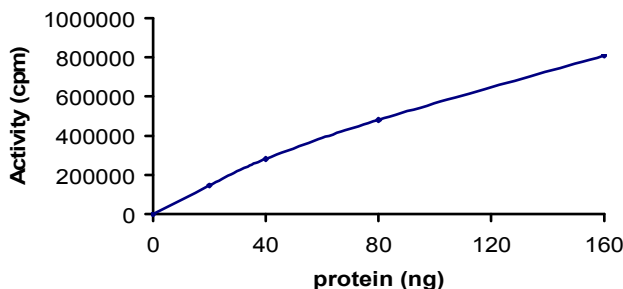
Store product at -70 °C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

Stability:

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

**Specific Activity:**

The specific activity was determined to be 254 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:

HSP27tide synthetic peptide substrate (RRLNRQLSVA-amide) 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. Stokoe, D. et al: The substrate specificity and structure of mitogen-activated protein (MAP) kinase-activated protein kinase-2. *Biochem. J.* 296: 843-849, 1993.

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