

p38 gamma (Human), Active

Full-length recombinant protein expressed in Sf9 cells

Cat# CY-SPM38

Lot No. B324-1
5 µg 0.1 µg/µl

Background:

p38 γ (p38-gamma) is a member of the p38 MAPK family which is activated in response to stress (1). p38 γ gene was mapped to 22q13.3 and functions as a signal transducer during differentiation of myoblasts to myotubes. Enforced localization of p38 γ in the nucleus or cytoplasm markedly attenuates the ability of the kinase to induce cell cycle arrest in fibroblasts. p38 γ increases basal glucose uptake and decreases DNP- and contraction-stimulated glucose uptake, partially by affecting levels of glucose transporter expression in skeletal muscle (2).

Product Description:

Recombinant full-length human p38 γ was expressed by baculovirus in Sf9 insect cells using a N-terminal GST tag. The gene accession number is NM_002969.

Gene Aliases:

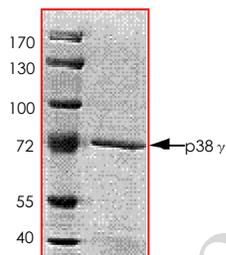
ERK3; ERK6; SAPK3; PRKM12; MAPK12

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:

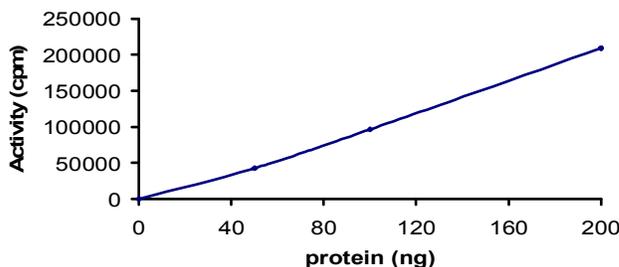
Store product at -70°C . For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

Stability:

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

**Specific Activity:**

The specific activity was determined to be 66 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:

Myelin basic protein (MBP) 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.Li, Z. et al: The primary structure of p38-gamma: a new member of p38 group of MAP kinases. Biochem. Biophys. Res. Commun. 228: 334-340, 1996.
- 2.Ho, RC. et al: p38gamma MAPK regulation of glucose transporter expression and glucose uptake in L6 myotubes and mouse skeletal muscle. Am J Physiol Regul Integr Comp Physiol. 2004 Feb; 286(2):R342-9. Epub 2003 Oct 30.

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