

Human MAPKAPK5 Protein (His & GST Tag)



Sino Biological Inc.

Biological Solution Specialist

Catalog Number: 13655-H20B

General Information

Gene Name Synonym:

MAPKAP-K5; MK-5; MK5; PRAK; MK5; PRAK

Protein Construction:

A DNA sequence encoding the human MAPKAPK5 isoform 1 (NP_003659.2) (Met 1-Gln 471) was fused with the N-terminal polyhistidine-tagged GST tag at the N-terminus.

Source: Human

Expression Host: Baculovirus-Insect Cells

QC Testing

Purity: > 76 % as determined by SDS-PAGE

Bio Activity:

Kinase activity untested

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Met

Molecular Mass:

The recombinant human MAPKAPK5/GST chimera consists of 708 amino acids and has a calculated molecular mass of 82 KDa. It migrates as an approximately 75KDa band in SDS-PAGE under reducing conditions.

Formulation:

Supplied as sterile 20mM Tris, 500mM NaCl, pH 8.0, 10% glycerol

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

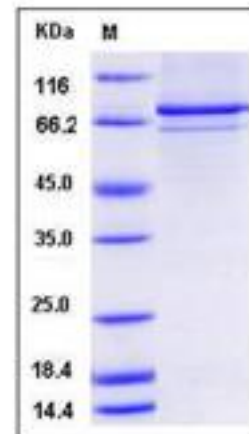
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

MAPKAPK5 contains 1 protein kinase domain and belongs to the protein kinase superfamily, CAMK Ser/Thr protein kinase family. MAPKAPK5 has significant sequence homology to mitogen-activated protein kinase (MAPK)-activated protein kinase (MAPKAPK). It is widely distributed. MAPKAPK5 can be phosphorylated by extracellular-regulated kinase (ERK), and p38 kinase but not by c-jun N-terminal kinase (JNK) in vitro. Recombinant GST-MAPKAPK5 protein can phosphorylate a peptide derived from the regulatory light chain of myosin II. Phosphorylation of MAPKAPK5 by ERK and p38 kinase increased its activity by 9 and 15 fold respectively. Taken together, these data suggest that MAPKAPK5 is a novel in vitro substrate for ERK and p38 kinase. In response to cellular stress and proinflammatory cytokines, this kinase is activated through its phosphorylation by MAP kinases including MAPK1/ERK, MAPK14/p38-alpha, and MAPK11/p38-beta. MAPKAPK5 also mediates stress-induced small heat shock protein 27 phosphorylation.

References

1. Ni H, *et al.* (1998) MAPKAPK5, a novel mitogen-activated protein kinase (MAPK)-activated protein kinase, is a substrate of the extracellular-regulated kinase (ERK) and p38 kinase. *Biochem Biophys. Res Commun.* 243 (2): 492-6.
2. Sudo T, *et al.* (2000) p62 functions as a p38 MAP kinase regulator. *Biochem Biophys Res Commun.* 269 (2): 521-5.
3. Strausberg RL, *et al.* (2003) Generation and initial analysis of more than 15,000 full-length human and mouse cDNA sequences. *Proc Natl Acad Sci.* 99 (26): 16899-903.

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