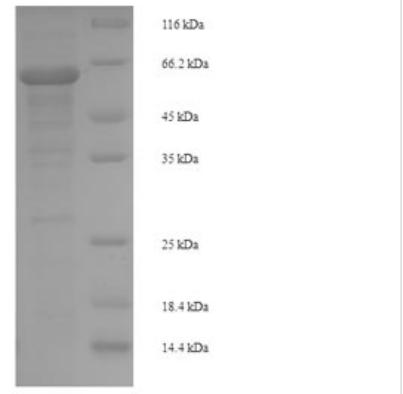
Recombinant Human Mitogen-activated protein kinase 9 (MAPK9)

Product Code	CSB-EP013471HU
Relevance	Serine/threonine-protein kinase involved in various processes such as cell proliferation, differentiation, migration, transformation and programmed cell death. Extracellular domain stimuli such as proinflammatory cytokines or physical stress stimulate the stress-activated protein kinase/c-Jun N-terminal kinase (SAP/JNK) signaling pathway. In this cascade, two dual specificity kinases MAP2K4/MKK4 and MAP2K7/MKK7 phosphorylate and activate MAPK9/JNK2. In turn, MAPK9/JNK2 phosphorylates a number of transcription factors, primarily components of AP-1 such as JUN and ATF2 and thus regulates AP-1 transcriptional activity. In response to oxidative or ribotoxic stresses, inhibits rRNA synthesis by phosphorylating and inactivating the RNA polymerase 1-specific transcription initiation factor RRN3. Promotes stressed cell apoptosis by phosphorylating key regulatory factors including TP53 and YAP1. In T-cells, MAPK8 and MAPK9 are required for polarized differentiation of T-helper cells into Th1 cells. Upon T-cell receptor (TCR) stimulation, is activated by CARMA1, BCL10, MAP2K7 and MAP3K7/TAK1 to regulate JUN protein levels. Plays an important role in the osmotic stress-induced epithelial tight-junctions disruption. When activated, promotes beta-catenin/CTNNB1 degradation and inhibits the canonical Wnt signaling pathway. Participates also in neurite growth in spiral ganglion neurons. Phosphorylates the CLOCK-ARNTL/BMAL1 heterodimer and plays a role in the regulation of the circadian clock .
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P45984
Alias	JNK-55Stress-activated protein kinase 1a ;SAPK1a;Stress-activated protein kinase JNK2c-Jun N-terminal kinase 2
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	MSDSKCDSQFYSVQVADSTFTVLKRYQQLKPIGSGAQGIVCAAFDTVLGINVA VKKLSRPFQNQTHAKRAYRELVLLKCVNHKNIISLLNVFTPQKTLEEFQDVYLV MELMDANLCQVIHMELDHERMSYLLYQMLCGIKHLHSAGIIHRDLKPSNIVVKS DCTLKILDFGLARTACTNFMMTPYVVTRYYRAPEVILGMGYKENVDIWSVGCI MGELVKGCVIFQGTDHIDQWNKVIEQLGTPSAEFMKKLQPTVRNYVENRPKYP GIKFEELFPDWIFPSESERDKIKTSQARDLLSKMLVIDPDKRISVDEALRHPYITV WYDPAEAEAPPPQIYDAQLEEREHAIEEWKELIYKEVMDWEERSKNGVVKDQ PSDAAVSSNATPSQSSSINDISSMSTEQTLASDTDSSLDASTGPLEGCR

Research Area	Signal Transduction
Source	E.coli
Target Names	MAPK9
Expression Region	1-424aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-SUMO-tagged
Mol. Weight	64.1kDa
Protein Length	Full Length

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Amino acids 1-424 form the expressed segment for recombinant Human MAPK9. The expected molecular weight for the MAPK9 protein is calculated to be 64.1 kDa. Expression of this MAPK9 protein is conducted in e.coli. The MAPK9 gene fragment has been modified by fusing the N-terminal 6xHis-SUMO tag, providing convenience in detecting and purifying the recombinant MAPK9 protein during the following stages.

Human mitogen-activated protein kinase 9 (MAPK9) is a member of the MAP kinase family involved in intracellular signaling pathways. MAPK9 plays a pivotal role in cell responses to environmental stress, pro-inflammatory cytokines, and various cellular stimuli. It is implicated in the regulation of cell proliferation, apoptosis, and differentiation. MAPK9 is particularly crucial in immune responses, and its dysregulation has been associated with inflammatory diseases and cancers. Research areas involving MAPK9 span immunology, oncology, and neurobiology, emphasizing its significance as a potential therapeutic target and highlighting its multifaceted roles in cellular processes.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

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storage temperature and the stability of the protein itself.
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