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Datasheet for ABIN7565220

**MAPK11 Protein (AA 1-364) (His tag)**

## Overview

Quantity:	1 mg
Target:	MAPK11
Protein Characteristics:	AA 1-364
Origin:	Mouse
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This MAPK11 protein is labelled with His tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB)

## Product Details

Purpose:	Custom-made recombinat Mapk11 Protein expressed in mammalien cells.
Sequence:	<p>MSGPRAGFYR QELNKTVWEV PQLQGLRPV GSGAYGSVCS AYDARLRQKV AVKKLSRPFQ SLIHARRTYR ELRLLKHLKH ENVIGLLDVF TPATSIEDFS EVYLVTTLMG ADLNNIVKCQ ALSDEHVQFL VYQLLRGLKY IHSAGIIHRD LKPSNVAVNE DCELRILDFG LARQADEEMT GYVATRKYRA PEIMLNWMHY NQTVDIWSVG CIMAELLQ GK ALFPGNDYID QLK RIMEVVG TPSPEVLAKI SSEHARTYIQ SLPPMPQKDL SSVFHGANPL AIDLLGRMLV LDSDQRVSA EALAHAYFSQ YHDPDDEPEA EPYDESVEAK ERTLEEWKEL TYQEVLSFKP LEPSQLPGTH EIEQ</p> <p><b>Sequence without tag. The proposed Purification-Tag is based on experiences with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.</b></p>
Characteristics:	Key Benefits:

## Product Details

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- Made to order protein - from design to production - by highly experienced protein experts.
- Protein expressed in mammalian cells and purified in one-step affinity chromatography
- The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins.
- State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein.

If you are not interested in a full length protein, please contact us for individual protein fragments.

The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

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Purity: > 90 % as determined by Bis-Tris Page, Western Blot

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Grade: custom-made

## Target Details

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Target: MAPK11

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Alternative Name: Mapk11 ([MAPK11 Products](#))

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Background: Mitogen-activated protein kinase 11 (MAP kinase 11) (MAPK 11) (EC 2.7.11.24) (Mitogen-activated protein kinase p38 beta) (MAP kinase p38 beta) (p38B),FUNCTION: Serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway. MAPK11 is one of the four p38 MAPKs which play an important role in the cascades of cellular responses evoked by extracellular stimuli such as pro-inflammatory cytokines or physical stress leading to direct activation of transcription factors. Accordingly, p38 MAPKs phosphorylate a broad range of proteins and it has been estimated that they may have approximately 200 to 300 substrates each. MAPK11 functions are mostly redundant with those of MAPK14. Some of the targets are downstream kinases which are activated through phosphorylation and further phosphorylate additional targets. RPS6KA5/MSK1 and RPS6KA4/MSK2 can directly phosphorylate and activate transcription factors such as CREB1, ATF1, the NF-kappa-B isoform RELA/NFKB3, STAT1 and STAT3, but can also phosphorylate histone H3 and the nucleosomal protein HMGN1. RPS6KA5/MSK1 and RPS6KA4/MSK2 play important roles in the rapid induction of immediate-early genes in response to stress or

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## Target Details

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mitogenic stimuli, either by inducing chromatin remodeling or by recruiting the transcription machinery. On the other hand, two other kinase targets, MAPKAPK2/MK2 and MAPKAPK3/MK3, participate in the control of gene expression mostly at the post-transcriptional level, by phosphorylating ZFP36 (tristetraprolin) and ELAVL1, and by regulating EEF2K, which is important for the elongation of mRNA during translation. MKNK1/MNK1 and MKNK2/MNK2, two other kinases activated by p38 MAPKs, regulate protein synthesis by phosphorylating the initiation factor EIF4E2. In the cytoplasm, the p38 MAPK pathway is an important regulator of protein turnover. For example, CFLAR is an inhibitor of TNF-induced apoptosis whose proteasome-mediated degradation is regulated by p38 MAPK phosphorylation. Ectodomain shedding of transmembrane proteins is regulated by p38 MAPKs as well. In response to inflammatory stimuli, p38 MAPKs phosphorylate the membrane-associated metalloprotease ADAM17. Such phosphorylation is required for ADAM17-mediated ectodomain shedding of TGF- $\alpha$  family ligands, which results in the activation of EGFR signaling and cell proliferation. Additional examples of p38 MAPK substrates are the FGFR1. FGFR1 can be translocated from the extracellular space into the cytosol and nucleus of target cells, and regulates processes such as rRNA synthesis and cell growth. FGFR1 translocation requires p38 MAPK activation. In the nucleus, many transcription factors are phosphorylated and activated by p38 MAPKs in response to different stimuli. Classical examples include ATF1, ATF2, ATF6, ELK1, PTPRH, DDIT3, TP53/p53 and MEF2C and MEF2A. The p38 MAPKs are emerging as important modulators of gene expression by regulating chromatin modifiers and remodelers. The promoters of several genes involved in the inflammatory response, such as IL6, IL8 and IL12B, display a p38 MAPK-dependent enrichment of histone H3 phosphorylation on 'Ser-10' (H3S10ph) in LPS-stimulated myeloid cells. This phosphorylation enhances the accessibility of the cryptic NF- $\kappa$ B-binding sites marking promoters for increased NF- $\kappa$ B recruitment. {ECO:0000269|PubMed:11909979}.

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Molecular Weight: 41.4 kDa

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UniProt: [Q9WUI1](#)

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Pathways: [MAPK Signaling](#), [Neurotrophin Signaling Pathway](#), [Activation of Innate immune Response](#), [Response to Water Deprivation](#), [Regulation of Muscle Cell Differentiation](#), [ER-Nucleus Signaling](#), [Hepatitis C](#), [Toll-Like Receptors Cascades](#), [Signaling Events mediated by VEGFR1 and VEGFR2](#), [Thromboxane A2 Receptor Signaling](#), [BCR Signaling](#), [S100 Proteins](#)

## Application Details

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Application Notes: In addition to the applications listed above we expect the protein to work for functional studies

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## Application Details

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as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.

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Restrictions: For Research Use only

## Handling

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Format: Liquid

Buffer: The buffer composition is at the discretion of the manufacturer.

Handling Advice: Avoid repeated freeze-thaw cycles.

Storage: -80 °C

Storage Comment: Store at -80°C.

Expiry Date: 12 months