

Datasheet for ABIN3093500

## MSK1 Protein (AA 1-802) (Strep Tag)



[Go to Product page](#)

### Overview

Quantity:	250 µg
Target:	MSK1 (RPS6KA5)
Protein Characteristics:	AA 1-802
Origin:	Human
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This MSK1 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

### Product Details

Brand:	AliCE®
Sequence:	<p>MEEEGGSSGG AAGTSADGGD GGEQLLTVKH ELRTANLTGH AEKVGIENFE LLKVLGTGAY</p> <p>GKVFLVRKIS GHDTGKLYAM KVLKKATIVQ KAKTTEHTRT ERQVLEHIRQ SPFLVTLHYA</p> <p>FQTETKLHLI LDYINGGELF THLSQRERFT EHEVQIYVGE IVLALEHLHK LGIYRDIKL ENILLDSNGH</p> <p>VVLTDGFLSK EFVADETERA YSFCGTIEYM APDIVRGGDS GHDKAVDWWS LGVLMYELLT</p> <p>GASPFTVDGE KNSQAEISRR ILKSEPPYPQ EMSALAKDLI QRLLMKDPKK RLGCGRDAD</p> <p>EIKEHLFFQK INWDDLAACK VPAPFKPVIR DELDVSNFAE EFTEMDPTYS PAALPQSSEK</p> <p>LFQGYSFVAP SILFKRNAAV IDPLQFHMGV ERPGVTNVAR SAMMKDSPFY QHYDLCLKDK</p> <p>PLGEGSFSIC RKCVMHKSQ AFVKIISKR MEANTQKEIT ALKLCEGHPN IVKLHEVFHD</p> <p>QLHTFLVMEL LNGGELFERI KKKKHFSETE ASYIMRKLVS AVSHMHDVGV VHRDLKPENL</p> <p>LFTDENDNLE IKIIDFGFAR LKPPDNQPLK TPCFTLHYAA PELLNQNGYD ESCDLWSLGV</p> <p>ILYTMLSGQV PFQSHDRSLT CTSAVEIMKK IKKGDFSFEQ EAWKNVSQEA KDLIQGLLTV</p>

DPNKRLKMSG LRYNEWLQDG SQLSSNPLMT PDILGSSGAA VHTCVKATFH AFNKYKREGF  
CLQNVDKAPL AKRRKMKKTS TSTETRSSSS ESSHSSSSHS HGKTTPTKTL QPSNPADSNN  
PETLFQFSDS VA

**Sequence without tag. The proposed Strep-Tag is based on experience s 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.**

Characteristics:

Key Benefits:

- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified in one-step affinity chromatography
- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- 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.

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.

Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from *Nicotiana tabacum* c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.
- During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

Concentration:

- The concentration of our recombinant proteins is measured using the absorbance at 280nm.
- The protein's absorbance will be measured against its specific reference buffer.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:

One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression

## Product Details

System (AliCE®).

Purity: > 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).

Grade: custom-made

## Target Details

Target: MSK1 (RPS6KA5)

Alternative Name: RPS6KA5 ([RPS6KA5 Products](#))

Background: Ribosomal protein S6 kinase alpha-5 (S6K-alpha-5) (EC 2.7.11.1) (90 kDa ribosomal protein S6 kinase 5) (Nuclear mitogen- and stress-activated protein kinase 1) (RSK-like protein kinase) (RSKL),FUNCTION: Serine/threonine-protein kinase that is required for the mitogen or stress-induced phosphorylation of the transcription factors CREB1 and ATF1 and for the regulation of the transcription factors RELA, STAT3 and ETV1/ER81, and that contributes to gene activation by histone phosphorylation and functions in the regulation of inflammatory genes (PubMed:11909979, PubMed:12569367, PubMed:12763138, PubMed:9687510, PubMed:18511904, PubMed:9873047). Phosphorylates CREB1 and ATF1 in response to mitogenic or stress stimuli such as UV-C irradiation, epidermal growth factor (EGF) and anisomycin (PubMed:11909979, PubMed:9873047). Plays an essential role in the control of RELA transcriptional activity in response to TNF and upon glucocorticoid, associates in the cytoplasm with the glucocorticoid receptor NR3C1 and contributes to RELA inhibition and repression of inflammatory gene expression (PubMed:12628924, PubMed:18511904). In skeletal myoblasts is required for phosphorylation of RELA at 'Ser-276' during oxidative stress (PubMed:12628924). In erythropoietin-stimulated cells, is necessary for the 'Ser-727' phosphorylation of STAT3 and regulation of its transcriptional potential (PubMed:12763138). Phosphorylates ETV1/ER81 at 'Ser-191' and 'Ser-216', and thereby regulates its ability to stimulate transcription, which may be important during development and breast tumor formation (PubMed:12569367). Directly represses transcription via phosphorylation of 'Ser-1' of histone H2A (PubMed:15010469). Phosphorylates 'Ser-10' of histone H3 in response to mitogenics, stress stimuli and EGF, which results in the transcriptional activation of several immediate early genes, including proto-oncogenes c-fos/FOS and c-jun/JUN (PubMed:12773393). May also phosphorylate 'Ser-28' of histone H3 (PubMed:12773393). Mediates the mitogen- and stress-induced phosphorylation of high mobility group protein 1 (HMGN1/HMG14) (PubMed:12773393). In lipopolysaccharide-stimulated primary macrophages, acts downstream of the Toll-like receptor TLR4 to limit the production of pro-inflammatory cytokines (By similarity). Functions probably by inducing transcription of the MAP

## Target Details

kinase phosphatase DUSP1 and the anti-inflammatory cytokine interleukin 10 (IL10), via CREB1 and ATF1 transcription factors (By similarity). Plays a role in neuronal cell death by mediating the downstream effects of excitotoxic injury (By similarity). Phosphorylates TRIM7 at 'Ser-107' in response to growth factor signaling via the MEK/ERK pathway, thereby stimulating its ubiquitin ligase activity (PubMed:25851810). {ECO:0000250|UniProtKB:Q8C050, ECO:0000269|PubMed:11909979, ECO:0000269|PubMed:12569367, ECO:0000269|PubMed:12628924, ECO:0000269|PubMed:12763138, ECO:0000269|PubMed:12773393, ECO:0000269|PubMed:15010469, ECO:0000269|PubMed:18511904, ECO:0000269|PubMed:25851810, ECO:0000269|PubMed:9687510, ECO:0000269|PubMed:9873047}.

Molecular Weight:	89.9 kDa
UniProt:	<a href="#">O75582</a>
Pathways:	<a href="#">MAPK Signaling</a> , <a href="#">EGFR Signaling Pathway</a> , <a href="#">Neurotrophin Signaling Pathway</a> , <a href="#">Activation of Innate immune Response</a> , <a href="#">Toll-Like Receptors Cascades</a>

## Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Comment:	<p>ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from <i>Nicotiana tabacum</i> c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.</p> <p>During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!</p>
Restrictions:	For Research Use only

## Handling

Format:	Liquid
---------	--------

## Handling

---

Buffer:	The buffer composition is at the discretion of the manufacturer. Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol <b>Might differ depending on protein.</b>
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months