

Product datasheet for **SC323666**

MSK1 (RPS6KA5) (NM_004755) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MSK1 (RPS6KA5) (NM_004755) Human Untagged Clone
Tag:	Tag Free
Symbol:	MSK1
Synonyms:	MSK1; MSPK1; RLPK
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL4</u>
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >NCBI ORF sequence for NM_004755, the custom clone sequence may differ by one or more nucleotides

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ATGGAGGAGGAGGGTGGCAGCAGCGGCGGCGCCGCGGGACCAGCGGGACGGCGCGGACGGAGGAGAGC
AGTCCTCACTGTCAAGCACGAGCTGCGGACTGCTAATTTGACAGGACATGCTGAGAAGGTGGGAATAGA
AAATTTGAGCTCCTGAAGTCTAGGAACTGGAGCTTATGGAAAAGTATTTCTAGTTTCGTAATAAAGT
GGCCATGATACTGGAAAGCTGTATGCCATGAAAAGTTTTGAAAAAGCAACAATCGTTCAAAAAGGCCAAA
CCACAGAGCATACAAGGACAGAACGACAAGTCTGGAACACATTAGGCAGTCGCCATTTTTGGTAACATT
ACATTATGCTTTCCAGACAGAAACCAACTTCATCTCATTTTAGATTATATAAATGGTGGTGAACTTTTT
ACTCATCTTTCTCAAAGAGAGCGTTTCACAGAGCATGAGGTGCAGATTTATGTTGGAGAGATTGTGCTTG
CCCTCGAACATCTCCACAAGTTGGGGATTATATATCGTGATTAAGCTTGAGAATATTCTACTTGATTC
TAATGGCCATGTGGTGTGACAGATTTGGTCTGAGTAAGGAGTTTGGGCTGATGAAACTGAAAGAGCA
TATTCCTTTTGTGGAATATTGAATACATGGCACCAGATATTGTCAGAGGGGGAGATTCCAGGACATGACA
AGGCAGTTGACTGGTGGAGTTTGGGTGTTCTAATGTATGAATTAACCTGGAGCATCTCCTTTCACTGT
TGATGGAGAAAAAATCCCAAGCTGAGATATCTAGGAGAATATTAAGAGTGGAGCTCCATATCCCCAA
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CGCCAAAAAAGTGCCATGACCAATTAAGCCAGTCATTCGAGATGAATTAGATGTGAGTAACCTTTCAGAA
GAGTTCACAGAAATGGATCCCACTTATTCTCCCGCAGCCCTGCCCCAGAGTTCTGAGAAGCTGTTTCAGG
GCTATTCCTTTGTTGCTCCTCCATCCTATTCAAGCGTAATGCAGCTGTCATAGACCCTCTTCAGTTTCA
CATGGGAGTTGAACGCTCTGGAGTGACAAATGTTGCCAGGAGTGAATGATGAAGGACTCTCCATTCTAT
CAACTATGACCTAGATTTGAAGGACAAACCCCTGGGAGAAGGTAGTTTTTCAATTTGTCGAAAGTGTG
TGCATAAAAAAAGTAACCAAGCTTTTGCAGTCAAATAATCAGCAAAAGGATGGAAGCCAATACTCAAAA
GGAAATAACAGCTCTGAACTCTGTGAAGGACACCCCAATATTGTGAAGTTCATGAAGTTTTTCATGAT
CAGCTTACACGTTTCTAGTGATGGAACCTCTGAATGGAGGAGAAGTGTGGAGCGCATTAAAGAAAAAGA
AGCACTTCAGTGAGACGGAAGCCAGCTACATCATGAGGAAGCTTGTTCAGCTGTAAAGCCACATGCATGA
TGTTGGAGTGGTGCACAGGGATCTGAAACCTGAGAATTTATTGTTACCGATGAAAATGACAATTTGGAA
ATTAATAAATTGATTTTGGATTTGCACGGCTAAAGCCACCGGATAATCAGCCCTGAAGACTCCATGCT
TCACCTTCATTATGCCGCCAGAGCTCTTGAATCAGAACGGCTACGATGAGTCTGTGACCTGTGGAG
CTTGGGCGTCATTTTGTACACAATGTTGTGAGGACAGGTTCCCTTCCAATCTCATGACCGAAGTTTGACG
TGTACCAGCGCGGTGAAATCATGAAGAAAATTAAGGAGGAGATTTCTCCTTTGAAGGAGAAGCCTGGA
AGAATGTATCCCAAGAGGCTAAAGATTTGATCCAAGGACTTCTCACAGTAGATCCAAACAAAAGGCTTAA
AATGTCTGGCTTGAGGTACAATGAATGGCTACAAGATGGAAGTCAGCTGTCTCCAATCCTCTGATGACT
CCGGATATTCTAGGATCTCCGGAGCTGCCGTGCATACCTGTGTGAAAGCAACCTTCCACGCCTTAAACA
AATACAAGAGAGAGGGGTTTTGCCTTCAAGATGTTGATAAGGCCCTTTGGCTAAGAGAAGAAAAATGAA
AAAGACTAGCACCAGTACCGAGACGCGCAGCAGTCCAGTGAGAGTCCATTCTTCTCTCTCATTCT
CACGGTAAAACTACCCCAAGACTGCAGCCAGCAATCCTGCCGACAGCAATAACCCGGAGACCC
TCTTCCAGTTCTCGGACTCAGTAGCTTAG
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5' Read Nucleotide Sequence:	>OriGene 5' read for mutant NM_004755 unedited ACCGCCGTTGAGCAATGGGCGGTAGCGGTGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGAA CCGTGAGAATTTTGAATACGACTACTATAGGGCGGCCGCAATTCGGCACGAGCGGAAAGAGACTCG TCTTTGCGTCCGAGTTCTGGAGCCGCCACCCGACTCTGGGGCCGCGGCAGCGGCTGCGAGGGGACG GGCGTCCGCTGTCTCTGGGTTCCCTCGTAGCGACCCGCGGGATCGGAAAAAAGGAGAAGATGGAGGA GGAGGGTGGCAGCAGCGCGCGCCGCGGGACCAGCGCGGACGGCGGACGGAGGAGAGCAGCTCCTC ACTGTCAAGCACGAGCTGCGGACTGCTATTTTGACAGGGACATGCTGAGAAGTGGGAATAGAAAAATTT TGAGCCTCTGAGTCTAGGAAGTGGAGCTTATGAAAAAGTATTCTAGTTTCGTAATAAAGTGCCA TGATACTGAAAACCTGTATGCATGAAGTTTGAAAAAGGCACCAATGTTCCAAAGGGCCAAACCCGAACC ACCAGGGCCGAACGAACATCTCTGAAACATTTAGCAATGCCATTTTGGTAACTTACATTGGCTTTCCAA AGAACCCAACTTCATCATTTGAGATATAAAGGGTGAACCTTACTACTTTCAAAGAAAGCTTTCCAGAC ATGGTGCATATATGGGGAAGAGTGGCTGGCTTGAACCTCCAAGTCGGAATTAATCGGATTAGCTGGAAA TTCTGGGACTATGCAGCGTCGCACATCCCTAAAGAATGGCTGAACTGAGACTTAGTACTGGATCGCA AAATCAAGG
Kinase Domain Sequence:	>SC323666 kinase domain raw sequence. By performing BLASTX analysis with this sequence against NCBI reference protein database, you can confirm the presence of the kinase-deficient mutation ATTGATGMAACCCCTGGGAGAGGTAGTTTTTCATTTGTCGAAAGTGTGTGCATAAAAAAAGTAACCAAGC TTTTGCAGTCATGATAATCAGCAAAGGATGGAAGCCAATACTCAAAGGAAATAACAGCTCTGAAACTC TGTGAAGGACACCCCAATATTGTGAAGTTGCATGAAGTTTTTCATGATCAGCTTCACACGTTTCTAGTGA TGGAACTTCTGAATGGAGGAGAACTGTTTGAGCGCATTAAGAAAA
Restriction Sites:	Please inquire
ACCN:	NM_004755
OTI Disclaimer:	Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).
OTI Annotation:	This kinase-deficient mutant clone was generated by created by site-directed mutagenesis from the corresponding wild-type clone. See details in "Application of active and kinase-deficient kinome collection for identification of kinases regulating hedgehog signaling." Cell, 2008 May p536-548.
Components:	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
Reconstitution Method:	<ol style="list-style-type: none"> 1. Centrifuge at 5,000xg for 5min. 2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA. 3. Close the tube and incubate for 10 minutes at room temperature. 4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom. 5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.
RefSeq:	NM_004755.2 , NP_004746.2
RefSeq Size:	3883 bp
RefSeq ORF:	2409 bp

Locus ID:	9252
UniProt ID:	O75582
Cytogenetics:	14q32.11
Domains:	kinase, S_TK_X, TyrKc, S_TKc
Protein Families:	Druggable Genome, Protein Kinase, Transcription Factors
Protein Pathways:	Bladder cancer, MAPK signaling pathway, Neurotrophin signaling pathway
Gene Summary:	<p>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 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).[UniProtKB/Swiss-Prot Function]</p> <p>Transcript Variant: This variant (1) encodes the longest isoform (a). Sequence Note: The RefSeq transcript and protein were derived from genomic sequence to make the sequence consistent with the reference genome assembly. The genomic coordinates used for the transcript record were based on alignments.</p>