

Product datasheet for **MR207584**

Mapkapk5 (NM_010765) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Mapkapk5 (NM_010765) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Mapkapk5
Synonyms:	MK5; PRAK
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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ORF Nucleotide Sequence:

>MR207584 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGTCGGAGGACAGCGACATGGAGAAAGCCATCAAGGAGACCTCCATTTTAGAAGAATATAGTATCAATT
 GGACTCAGAAACTGGGAGCCGGAATTAGTGGTCCAGTTAGAGTCTGTGTGAAGAAATCCACTCAAGAACG
 GTTTGCACTGAAAATTCTTCTTGATCGTCCAAAAGCTAGAAATGAGGTGCGCCTGCACATGATGTGTGCC
 ACACACCCCAACATAGTTCAGATTATTGAAGTGTGCTAACAGTGTACAGTTCCCTCATGAGTCCAGCC
 CCAGGGCTCGACTCTTAATTGTAATGGAGATGATGGAAGGGGAGAGCTATTTACAGAATCAGCCAGCA
 CCGGCACCTTACAGAGAAGCAAGCCAGCCAAGTAAACAAGCAGATAGCCCTGGCTCTACAGCACTGTAC
 TTGCTAAACATTGCGCACAGAGACCTCAAGCCTGAAAATCTGCTTTTCAAGGATAACTCTCTGGACGCC
 CTGTGAAATTATGTGACTTTGGGTTTGTAAAGTTGACCAAGGTGATTTGATGACACCCAGTTACCCC
 TTAATATGTAGCACCTCAGGTACTGGAAGCGCAGAGACGGCACCAAGGAGAAGTCTGGCATCATACCT
 ACCTCGCCAACACCTCACTTACAACAAGAGCTGTGACTTGTGGTCCCTAGGGGTGATAATTTATGTGA
 TGCTGTGCGGATATCCTCCTTTTACTCAAAACACCATAGTCGGACTATCCCAAAGGATATGCGGAAAAA
 GATCATGACAGGAAGTTTCGAGTCCCAGAAGAAGAGTGGAGCCAGATCTCAGAGATGGCTAAAGATGTT
 GTGAGGAAGCTTCTGAAGGTCAAACCAGAGGAAAGACTCAAAATCGAGGGAGTGTGGACCATCCCTGGC
 TCAACTCGACAGAGGCCCTGGATAATGTCTACCTCTGCCAGCTGATGATGGATAAGGCGGTGGTTGC
 GGGGATCCAGCAGGCGCACGCCGAGCAGCTGGCAAACATGAGGATCCAGGACCTCAAGGTCAGCCTCAA
 CCCCTGCACTCTGTCAACAACCCATTCTCAGGAAGAGGAAGCTGCTGGGCACCAAGCCAAAGGACGGTA
 TTTATATACACGACCATGAGAATGGAAGTGGAGACTCAAATGTTGCCTTGGAAAAGCTTCGAGATGTCAT
 TGCCAGTGTATCTCCCCAGGCTGGTAAAGGAGAGAATGAAGATGAGAAGCTGAATGAGGTAATGCAG
 GAGGCCTGGAAGTACAACCGCAATGCAAGCTCCTGAGGGATGCTCTGCAGAGTTTTAGCTGGAATGGCC
 GTGGATTCACAGATAAAGTTGACCGATTGAAGCTGGCAGAGGTGGTAAAGCAGGTGATCGAAGAGCAGAC
 CCTTCCACGAGCCCCAG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence:

>MR207584 protein sequence
 Red=Cloning site Green=Tags(s)

MSESDMEKAIKETSILEEYSINWTQKLGAGISGPVRCVVKSTQERFALKILLDRPKARNEVRLHMCA
 THPNIVQIIIEVFANSVQFPHESSPRARLLIVMEMEGGELFHRISQHRHFTEKQASQVTKQIALALQHCH
 LLNIAHRDLKPENLLFKDNLSDAPVKLCDFGFAKVDQGLMTPQFTPYVYVAPQVLEAQRHHQKEKSGIIP
 TSPTPYTYNKSCDLWSLGVIIYVMLCGYPPFYSKHHSRTIPKDMRKKIMTGSFEFPEEWSQISEMAKDV
 VRKLLKVKPEERLTIEGLDHPWLNSTEALDNVLPQAQLMMDKAVVAGIQQAHAELANMRIQDLKVSLLK
 PLHSVNNPILRKRKLLGKPKDGIYIHDHENGTEDSNVALEKLRDVIQAQCILPQAGKGENEDEKLEVMQ
 EAWKYNRECKLLRDALQSFSWNGRGFTDKVDRLKLAEVVKQVIEEQTLPHPEPQ

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

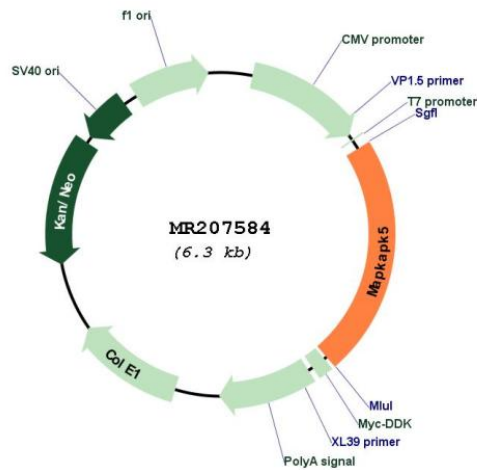
Restriction Sites:

SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN:

NM_010765

ORF Size:

1422 bp

OTI Disclaimer:

The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation:

This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

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:

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_010765.2](#)

RefSeq Size: 2229 bp

RefSeq ORF: 1422 bp

Locus ID: 17165

UniProt ID: [O54992](#)

Cytogenetics: 5 F

MW: 54.2 kDa

Gene Summary: Tumor suppressor serine/threonine-protein kinase involved in mTORC1 signaling and post-transcriptional regulation. Phosphorylates FOXO3, ERK3/MAPK6, ERK4/MAPK4, HSP27/HSPB1, p53/TP53 and RHEB. Acts as a tumor suppressor by mediating Ras-induced senescence and phosphorylating p53/TP53. Involved in post-transcriptional regulation of MYC by mediating phosphorylation of FOXO3: phosphorylation of FOXO3 leads to promote nuclear localization of FOXO3, enabling expression of miR-34b and miR-34c, 2 post-transcriptional regulators of MYC that bind to the 3' UTR of MYC transcript and prevent MYC translation. Acts as a negative regulator of mTORC1 signaling by mediating phosphorylation and inhibition of RHEB. Part of the atypical MAPK signaling via its interaction with ERK3/MAPK6 or ERK4/MAPK4: the precise role of the complex formed with ERK3/MAPK6 or ERK4/MAPK4 is still unclear, but the complex follows a complex set of phosphorylation events: upon interaction with atypical MAPK (ERK3/MAPK6 or ERK4/MAPK4), ERK3/MAPK6 (or ERK4/MAPK4) is phosphorylated and then mediates phosphorylation and activation of MAPKAPK5, which in turn phosphorylates ERK3/MAPK6 (or ERK4/MAPK4). Mediates phosphorylation of HSP27/HSPB1 in response to PKA/PRKACA stimulation, inducing F-actin rearrangement. [UniProtKB/Swiss-Prot Function]