

Product datasheet for **SC323406**

ERK5 (MAPK7) (NM_139033) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	ERK5 (MAPK7) (NM_139033) Human Untagged Clone
Tag:	Tag Free
Symbol:	MAPK7
Synonyms:	BMK1; ERK4; ERK5; PRKM7
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)



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Fully Sequenced ORF: >NCBI ORF sequence for NM_139033, the custom clone sequence may differ by one or more nucleotides

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ATGGCCGAGCCTCTGAAGGAGGAAGACGGCGAGGACGGCTCTGCGGAGCCCCCGGGCCCGTGAAGGCCG
AACCCGCCACACCGCTGCCTCTGTAGCGGCCAAGAACCTGGCCCTGCTTAAAGCCCGCTCCTTCGATGT
GACCTTTGACGTGGGCGACGAGTACGAGATCATCGAGACCATAGGCAACGGGGCCTATGGAGTGGTGTCC
TCCGCCCGCCGCGCCTCACCGGCCAGCAGGTGGCCATCAAGAAGATCCCTAATGCTTTCGATGTGGTGA
CCAATGCCAAGCGGACCCTCAGGGAGCTGAAGATCCTCAAGCACTTTAAACACGACAACATCATCGCCAT
CAAGGACATCCTGAGGCCACCCTGACCCTATGGCGAATTCAAATCTGTCTACGTGGTCTGGACCTGATG
GAAAGCGACCTGCACCAGATCATCCACTCCTCACAGCCCCTCACACTGGAACACGTGCGCTACTTCTGT
ACCAACTGCTGCGGGCCTGAAGTACATGCACTCGGCTCAGGTATCCACCGTGACCTGAAGCCCTCAA
CCTATTGGTGAATGAGAACTGTGAGCTCAAGATTGGTACTTTGGTATGGCTCGTGGCCTGTGCACCTCG
CCCCTGAACATCAGTACTTCATGACTGAGTATGTGGCCACGCGCTGGTACCGTGCGCCCGAGCTCATGC
TCTCTTTGCATGAGTATACACAGGCTATTGACCTCTGGTCTGTGGGCTGCATCTTTGGTGAATGCTGGC
CCGGCGCCAGCTCTTCCAGGCAAAAATATGTACACCAGCTACAGCTCATCATGATGGTCTGGGTACC
CCATCACAGCCGTGATTCAGGCTGTGGGGCTGAGAGGGTGGGGCCTATATCCAGAGCTTGCCACCAC
GCCAGCCTGTGCCCTGGGAGACAGTGTACCCAGGTGCCGACCGCCAGGCCCTATCACTGTGGTGCAT
GCTGCGTTTTGAGCCAGCGCTCGCATCTCAGCAGCTGTGCCCTTCCGACCCTTCTCTGGCCAAGTAC
CATGATCCTGATGATGAGCCTGACTGTGCCCGCCCTTTGACTTTGCCTTTGACCGCAAGCCCTCACTC
GGGAGCGCATTAAAGGAGCCATTGTGGCTGAAATTGAGGACTTCCATGCAAGGCGTGAGGGCATCCGCCA
ACAGATCCGCTTCCAGCCTTCTCTACAGCCTGTGGCTAGTGAGCCTGGCTGTCCAGATGTTGAAATGCC
AGTCCCTGGGCTCCCAGTGGGGACTGTGCCATGGAGTCTCCACCACCGCCCGCCACCATGCCCCGGCC
CTGCACCTGACACCATTGATCTGACCCTGCAGCCACCTCCACCAGTCAGTGAGCCTGCCCAACAAAGAA
AGATGGTGCCATCTCAGACAATACTAAGGCTGCCCTTAAAGCTGCCCTGCTCAAGTCTTTGAGGAGCCGG
CTCAGAGATGGCCCCAGCGCACCCCTGGAGGCTCCTGAGCCTCGGAAGCCGGTGACAGCCAGGAGCGCC
AGCGGGAGCGGGAGGAGAAGCGGCGGAGGCGGCAAGAACGAGCCAAGGAGCGGGAGAAACGGCGGCAGGA
GCGGGAGCGAAAGGAACGGGGGCTGGGGCCTCTGGGGGCCCTCCACTGACCCCTTGGCTGGACTAGTG
CTCAGTGACAATGACAGAAGCCTGTTGGAACGCTGGACTCGAATGGCCCGGCCCGCAGCCCCAGCCCTCA
CCTCTGTGCCGGCCCTGCCACGCGCAACGCCAACCCCAACCCAGTCCAACCTACCAGTCTCTCTCC
TGGCCCTGTAGCCAGCCACTGGCCCGCAACCACAATCTGCGGGCTCTACCTCTGGCCCTGATCCCCAG
CCTGCCTGCCACCCCTGGCCCTGCACCCACCCCACTGGCCCTCCTGGGCCATCCCTGTCCCCGCGC
CACCCAGATTGCCACCTCCACCAGCCTCCTGGCTGCCAGTCACTTGTGCCACCCCTGGGCTGCCTGG
CTCCAGACCCCAAGGAGTTTTGCCTTACTTCCACCTGGCCTGCCGCCCCAGACGCCGGGGGAGCCCT
CAGTCTTCCATGTGAGAGTCACTGATGTCAACCTTGTGACCCAGCAGCTATCTAAGTCACAGGTGGAGG
ACCCCTGCCCTGTGTTCTCAGGCACACCAAGGGCAGTGGGGCTGGCTACGGTGTGGCTTTGACCT
GGAGGAATTCTTAAACAGTCTTTCGACATGGGCGTGGCTGATGGGCCACAGGATGGCCAGGCAGATTCA
GCCTCTCTCAGCCTCCCTGCTTGTGACTGGCTCGAAGGCCATGGCATGAACCCTGCCGATATTGAGT
CCCTGCAGCGTGAGATCCAGATGGACTCCCAATGCTGCTGGCTGACCTGCCTGACCTCCAGGACCCCTG
A
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5' Read Nucleotide Sequence:	>OriGene 5' read for mutant NM_139033 unedited ACCGCCCGTCCAGCAAAGGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGA ACCGTCAGAAATTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGGCACCAGCGGAGACCCCGCG CTGGGGACGGGAGGCCGGCGAGCCTCGGGACCTCTGAAAGCCTTGAGGAGGCGCGGGGACACCATGGCCG AGCCTCTGAAGGAGGAAGACGGCGAGGACGGCTCTGCGGAGCCCCCGGGCCCGTGAAGGCCGAACCCGC CCACACCGCTGCCTCTGTAGCGCCAAGAACCTGGCCCTGCTTAAAGCCCGCTCCTTCGATGTGGCGCTT GTGATCGTGGGCGACGATACGAGATCATCGAGACCATAGGCAACGGGGCCTATGGAGTGGGTGTGGGGG GGGCGGCCGGCGCTTAACGGGCGCGCCAGGGTGGCCTCCTGGAAAATCCTTAAGGCTTTGAATGGGTTGA CAAAGGCCAACCGACCCCTAGGACCGAAGAATCCCAAGGCCCTTAAAAAGAAAAAATTATTGGAATTA GGGACTCTGGGGCACCCCTGGCCTATGGCGCAATTCAAATCTGTTTACGTGGTCCGGGCCCCGAGGAAA GCGCCCTGCCCATATATCCTTCTCAAAGCCTTACAAGTAAAACGTTTGCTCATTTTGTTCACAATG TGGCGGGGGCTCAAATTTAGCCCTTCGCAAGGGTCACCCGGGACCTGGCCCTCCACTTTGTGTAGAAG AACATGGCGCCAATGTGAAATTTGGGGGTGGCGTGACCCTCCCTGAGAACATACTTCTTATGAGT ATTGTGCGCCCTGTGAGTGCGCACACTGATCTTTGTGATAGTATCCACGAGTATGCTTCTTGTGCTG GCGCAATCTTTGAAGATGCGCGCGCCCGTCTGCGACAACCTATATAGC
Kinase Domain Sequence:	>SC323406 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 CGACGMCAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGAACCGTC AGAATTTTGTAAACGACTCACTATAGGGCGGCCGGAATTCGGCACCAGCGGAGACCCCGCGCTGGGG ACGGGAGCCGGCGAGCCTCGGGACCTCTGAAAGCCTTGAGGAGGCGGGGACACCATGGCCGAGCCTC TGAAGGAGGAAGACGGCGAGGACGGCTCTGCGGAGCCCCCGGGC
Restriction Sites:	Please inquire
ACCN:	NM_139033
Insert Size:	3000 bp
OTI Disclaimer:	Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery. 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 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:

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_139033.1](#), [NP_620602.1](#)

RefSeq Size: 3113 bp

RefSeq ORF: 2451 bp

Locus ID: 5598

UniProt ID: [Q13164](#)

Cytogenetics: 17p11.2

Domains: pkinase, TyrKc, S_TKc

Protein Families: Druggable Genome, Protein Kinase

Protein Pathways: Gap junction, GnRH signaling pathway, MAPK signaling pathway, Neurotrophin signaling pathway

Gene Summary: The protein encoded by this gene is a member of the MAP kinase family. MAP kinases act as an integration point for multiple biochemical signals, and are involved in a wide variety of cellular processes such as proliferation, differentiation, transcription regulation and development. This kinase is specifically activated by mitogen-activated protein kinase kinase 5 (MAP2K5/MEK5). It is involved in the downstream signaling processes of various receptor molecules including receptor type kinases, and G protein-coupled receptors. In response to extracellular signals, this kinase translocates to cell nucleus, where it regulates gene expression by phosphorylating, and activating different transcription factors. Four alternatively spliced transcript variants of this gene encoding two distinct isoforms have been reported. [provided by RefSeq, Jul 2008]

Transcript Variant: This variant (1) is also known as BMK1 alpha. It encodes a longer isoform (1), as compared to variant 2. Variants 1, 3 and 4 encode the same isoform.