

Product datasheet for **RC203506**

ERK5 (MAPK7) (NM_002749) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Tag:	Myc-DDK
Symbol:	ERK5
Synonyms:	BMK1; ERK4; ERK5; PRKM7
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



[View online »](#)

**ORF Nucleotide
Sequence:**

>RC203506 ORF sequence

Red=Cloning site Blue=ORF Green=Tags(s)

 TTTTGAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGC**

 ATGGCCGAGCCTCTGAAGGAGGAAGACGGCGAGGACGGCTCTGCGGAGCCCCCGGGCCCGTGAAGGCCG
AACCCGCCACACCGCTGCCTCTGTAGCGGCCAAGAACCCTGGCCCTGCTTAAAGCCCGCTCCTTCGATGT
GACCTTTGACGTGGGCGACGAGTACGAGATCATCGAGACCATAGGCAACGGGGCTATGGAGTGGTGTC
TCCGCCCGCCCGCCTCACCGGCCAGCAGGTGGCCATCAAGAAGATCCCTAATGCTTTCGATGTGGTGA
CCAATGCCAAGCGGACCCTCAGGAGCTGAAGATCCTCAAGCACTTTAAACACGACAACATCATGCCAT
CAAGGACATCCTGAGGCCACCGTGCCCTATGGCGAATTCAAATCTGTCTACGTGGTCTGGACCTGATG
GAAAGCGACCTGCACGATCATCCACTCCTCACAGCCCTCACACTGGAACACGTGCGCTACTTCTGT
ACCAACTGCTGCGGGCCTGAAGTACATGCACTCGGCTCAGGTATCCACCGTACCTGAAGCCCTCCAA
CCTATTGGTGAATGAGAACTGTGAGCTCAAGATTGGTGACTTTGGTATGGCTCGTGGCCTGTGCACCTCG
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TCTCTTTCATGAGTATACACAGGCTATTGACCTCTGGTCTGTGGGCTGCATCTTTGGTGAATGCTGGC
CCGGCGCCAGCTCTTCCAGGCAAAAATATGTACACAGCTACAGCTCATCATGATGGTGTGGTACC
CCATCACCAGCCGTGATTCAGGCTGTGGGGCTGAGAGGGTGGGGCCTATATCCAGAGCTTGCCACCAC
GCCAGCCTGTGCCCTGGGAGACAGTGTACCCAGGTGCCGACCGCCAGGCCCTATCACTGCTGGTGCAT
GCTGCGTTTTGAGCCAGCGCTCGCATCTCAGCAGCTGCTGCCCTTCGCCACCTTTCTGGCCAAGTAC
CATGATCCTGATGATGAGCCTGACTGTGCCCGCCCTTTGACTTTGCCTTTGACCGCGAAGCCCTCACTC
GGGAGCGCATTAAAGGAGCCATTGTGGCTGAAATTGAGGACTTCCATGCAAGCGGTGAGGGCATCCGCCA
ACAGATCCGCTTCCAGCCTTCTCTACAGCCTGTGGCTAGTGAGCCTGGCTGTCCAGATGTTGAAATGCC
AGTCCCTGGGCTCCAGTGGGACTGTGCCATGGAGTCTCCACCACGAGCCCGCCACCATTGCCCGGCC
CTGCACCTGACACCATTGATCTGACCCTGCAGCCACCTCCACCAGTCAGTGAGCCTGCCCCACCAAGAA
AGATGGTGCCATCTCAGACAATACTAAGGCTGCCCTTAAAGCTGCCCTGCTCAAGCTTTGAGGAGCCGG
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AGCGGGAGCGGGAGGAGAAGCGGCGGAGGCGGCAAGAACGAGCCAAGGAGCGGGAGAAACGGCGGCAGGA
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CTCAGTGACAATGACAGAAGCCTGTTGGAACGCTGGACTCGAATGGCCCGGCCCGCAGCCCCAGCCCTCA
CCTCTGTGCCGGCCCTGCCCGAGCGCCAACGCCAACCCCAACCCAGTCCAACCTACCAGTCTCTCTCC
TGGCCCTGTAGCCGAGCCACTGGCCCGCAACCACAATCTGCGGGCTCTACCTCTGGCCCTGTACCCAG
CCTGCCTGCCCCACCCCTGGCCCTGCACCCACCCCACTGGCCCTCCTGGGCCCATCCCTGTCCCCGCGC
CACCCAGATTGCCACCTCCACCAGCCTCCTGGCTGCCAGTCACTTGTGCCACCCCTGGGCTGCCTGG
CTCCAGCACCCAGGAGTTTGCCTTACTTCCACCTGGCCTGCCGCCCCAGACGCCGGGGAGCCCT
CAGTCTTCCATGTCAGAGTACCTGATGTCAACCTTGACCCAGCAGCTATCTAAGTACAGGTGGAGG
ACCCCTGCCCCCTGTGTTCTCAGGCACACCAAGGGCAGTGGGGCTGGTACGGTGTGGCTTTGACCT
GGAGGAATCTTAAACAGTCTTTCGACATGGGCGTGGCTGATGGGCCACAGGATGGCCAGGCAGATTCA
GCCTCTCTCTCAGCCTCCCTGCTTGTGACTGGCTCGAAGGCCATGGCATGAACCTGCCGATATTGAGT
CCCTGCAGCGTGAGATCCAGATGGACTCCCAATGCTGTGGCTGACCTGCCTGACCTCCAGGACCC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC203506 protein sequence
 Red=Cloning site Green=Tags(s)

MAEPLKEEDGEDGSAEPPGPVKAEPAAHTAASVAAKNLALLKARSFDVTFDVGDEYEIIETIGNGAYGVVS
 SARRRLTGQQVAIKKIPNAFDVVTNAKRTLRELKILKHFKHDNIIA IKDILRPTVPYGEFKSVYVLDLM
 ESDLHQIIHSSQPLTLEHVRYFLYQLLRGLKYMHS AQVIHRDLKPSNLLVNENCKIGDFGMARGLCTS
 PAEHQYFMTEYVATRWYRAPELMLSLHEYTQAIDLWSVGCIFGEMLARRQLFPGKNYVHQLQLIMVLGT
 PSPAVIQAVGAERVYAYIQSLPPRQPVWETVYPGADRQALSLLGRMLRFEPSARISAAAAALRHPFLAKY
 HDPDDEPDCAPPFDFAFDREALTRERIKEAIVAEIEDFHARREGIRQQIRFQPSLQPVASEPGCPDVEMP
 SPWAPSGDCAMESPPPAPPPCPGPAPDTIDLTLQPPPPVSEPAPPKKGAI SDNTKAALKAALLKSLRSR
 LRDGPSAPLEAPEPRKPVT AQERQREEREKRRRRQERAKEREKRRQERERKERGAGASGGPSTDPLAGLV
 LSDNDRSLLERWTRMARPAAPALTSVPAPAPAPTPTPTPVQPTSPPPGPVAQPTGPQPQSAGSTSGVPVQ
 PACPPPGPAPHPTGPPGPIPVAPPQIATSTSLAAQSLVPPPGLPGSSTPGVLPYFPPGLPPPDAGGAP
 QSSMSESPDVNLVTQQLSKSQVEDPLPPVFSGTPKGSAGYGVGFDLEEF LNQSFDMGVADGPQDGQADS
 ASLSASLLADWLEGHGMNPADIESLQREIQMDS PMLLADLPDLQDP

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6230_h06.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_002749

ORF Size: 2448 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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_002749.4](#)

RefSeq Size: 2972 bp

RefSeq ORF: 2451 bp

Locus ID: 5598

UniProt ID: [Q13164](#)

Cytogenetics: 17p11.2

Domains: pkinase, TyrKc, S_TKc

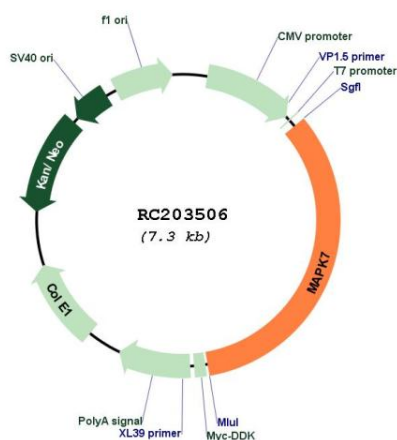
Protein Families: Druggable Genome, Protein Kinase

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

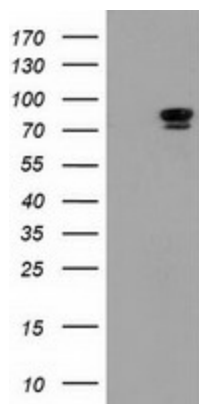
MW: 88.4 kDa

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]

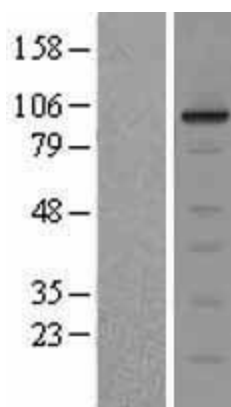
Product images:



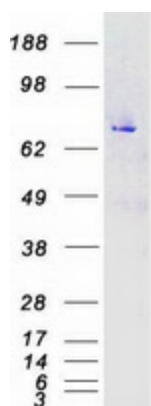
Circular map for RC203506



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY MAPK7 (Cat# RC203506, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-MAPK7 (Cat# [TA502150]). Positive lysates [LY419130] (100ug) and [LC419130] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY419130]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC203506 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified MAPK7 protein (Cat# [TP303506]). The protein was produced from HEK293T cells transfected with MAPK7 cDNA clone (Cat# RC203506) using MegaTran 2.0 (Cat# [TT210002]).