

Product datasheet for **RC402649**

MEK1 (MAP2K1) (NM_002755) Human Mutant ORF Clone

Product data:

Product Type:	Mutant ORF Clones
Product Name:	MEK1 (MAP2K1) (NM_002755) Human Mutant ORF Clone
Mutation Description:	E44G
Affected Codon#:	44
Affected NT#:	131
Nucleotide Mutation:	MAP2K1 Mutant (E44G), Myc-DDK-tagged ORF clone of Homo sapiens mitogen-activated protein kinase kinase 1 (MAP2K1) as transfection-ready DNA
Effect:	Noonan syndrome ?
Symbol:	MAP2K1
Synonyms:	CFC3; MAPKK1; MEK1; MEL; MKK1; PRKMK1
E. coli Selection:	Kanamycin (25 ug/mL)
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
Tag:	Myc-DDK
ACCN:	NM_002755
ORF Size:	1179 bp
Restriction Sites:	Sgfi-Mlul



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ORF Nucleotide Sequence:

>RC402649 representing NM_002755
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**GCGATCGCC**

ATGCCCAAGAAGAAGCCGACGCCCATCCAGCTGAACCCGGCCCCGACGGCTCTGCAGTTAACGGGACCA
 GCTCTGCGGAGACCAACTTGGAGCCTTGCAGAAGAAGCTGGAGGAGCTAGAGCTTGATGGGCAGCAGCG
 AAAGCGCCTTGAGGCCTTTCTTACCCAGAAGCAGAAGGTGGGAGAACTGAAGGATGACGACTTTGAGAAG
 ATCAGTGAGCTGGGGCTGGCAATGGCGGTGTGGTGTCAAGGTCTCCACAAGCCTTCTGGCCTGGTCA
 TGGCCAGAAAAGCTAATTCATCTGGAGATCAAACCCGCAATCCGGAACCAGATCATAAGGGAGCTGCAGGT
 TCTGCATGAGTCAACTCTCCGTACATCGTGGCTTCTATGGTGCCTTCTACAGCGATGGCGAGATCAGT
 ATCTGCATGGAGCACATGGATGGAGTTCTCTGGATCAAGTCTGAAGAAAGCTGGAAGAATTCCTGAAC
 AATTTTAGGAAAAGTTAGCATTGCTGTAATAAAAGGCCTGACATATCTGAGGGAGAAGCACAAGATCAT
 GCACAGAGATGTCAAGCCCTCCAACATCTAGTCAACTCCCGTGGGAGATCAAGCTCTGTGACTTTGGG
 GTCAGCGGGCAGCTCATCGACTCCATGGCCAACCTCTCGTGGGCACAAGGTCTACATGTCGCCAGAAA
 GACTCCAGGGGACTCATTACTCTGTGCAGTCAGACATCTGGAGCATGGGACTGTCTCTGGTAGAGATGGC
 GGTTGGGAGGTATCCCATCCCTCCTCCAGATGCCAAGGAGCTGGAGCTGATGTTGGGTGCCAGGTGGAA
 GGAGATGCGGCTGAGACCCACCCAGGCCAAGGACCCCGGGAGGCCCTTAGCTCATACGGAATGGACA
 GCCGACCTCCCATGGCAATTTTGTAGTTGTTGGATTACATAGTCAACGAGCCTCTCCAAAACCTGCCAG
 TGGAGTGTTCAGTCTGGAATTTCAAGATTTTGTGAATAAATGCTTAATAAAAAACCCCGCAGAGAGACA
 GATTTGAAGCAACTCATGGTTCATGCTTTTATCAAGAGATCTGATGCTGAGGAAGTGGATTTTGCAGGTT
 GGCTCTGCTCCACCATCGGCCTTAACCAGCCCAGCACACCAACCCATGCTGCTGGCGTC

AG**CGGACCG**ACGCGTACGCGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC
 TGGATTACAAGGATGACGACGA TAAGGTTTAA

Protein Sequence:

>RC402649 representing NM_002755
 Red=Cloning site Green=Tags(s)

MPKKKPTPIQLNPAPDGSVNGTSSAETNLEALQKKLEELDGGQQRKLEAFLTQKQKVGELKDDDFEK
 ISELGAGNGGVVFKVSHKPSGLVMARKLIHLEIKPAIRNQIIRELQVLHECNSPYIVGFYGFYSDGEIS
 ICMEHMDGGSLDQVLKKAGRIPEQILGKYSIAVIKGLTYLREKHKIMHRDVKPSNILVNSRGEIKLCDFG
 VSGQLIDSMANSFVGTRSYMSPERLQGTHYSVQSDIWSMGLSLVEMAVGRYPIPPDAKELELMFGCQVE
 GDAAETPPRPRTTPGRPLSSYGMSRPPMAIFELLDYIVNEPPPKLPSGVFSLEFQDFVNKCLIKNPAERA
 DLKQLMVHAFIKRSDAEEVDFAGWLCSTIGLNQSPSTPHAAGV

SGP**TRRRLEQKLI**SEEDLAANDILDYKDDDDKV

Restriction Sites:

Sgfl-MluI

Cloning Scheme:

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).

RefSeq:

[NP_002746](#)

RefSeq Size:

1179 bp

RefSeq ORF:

1182 bp

Locus ID:

5604

Cytogenetics:

15q22.31

Domains:

pkinase, TyrKc, S_TKc

Protein Families:

Druggable Genome, Protein Kinase

Protein Pathways:	Acute myeloid leukemia, B cell receptor signaling pathway, Bladder cancer, Chemokine signaling pathway, Chronic myeloid leukemia, Colorectal cancer, Dorso-ventral axis formation, Endometrial cancer, ErbB signaling pathway, Fc epsilon RI signaling pathway, Fc gamma R-mediated phagocytosis, Focal adhesion, Gap junction, Glioma, GnRH signaling pathway, Insulin signaling pathway, Long-term depression, Long-term potentiation, MAPK signaling pathway, Melanogenesis, Melanoma, Natural killer cell mediated cytotoxicity, Neurotrophin signaling pathway, Non-small cell lung cancer, Oocyte meiosis, Pancreatic cancer, Pathways in cancer, Prion diseases, Progesterone-mediated oocyte maturation, Prostate cancer, Regulation of actin cytoskeleton, Renal cell carcinoma, T cell receptor signaling pathway, Thyroid cancer, Toll-like receptor signaling pathway, Vascular smooth muscle contraction, VEGF signaling pathway
MW:	43.2 kDa
Gene Summary:	The protein encoded by this gene is a member of the dual specificity protein kinase family, which acts as a mitogen-activated protein (MAP) kinase kinase. MAP kinases, also known as extracellular signal-regulated kinases (ERKs), act as an integration point for multiple biochemical signals. This protein kinase lies upstream of MAP kinases and stimulates the enzymatic activity of MAP kinases upon wide variety of extra- and intracellular signals. As an essential component of MAP kinase signal transduction pathway, this kinase is involved in many cellular processes such as proliferation, differentiation, transcription regulation and development. [provided by RefSeq, Jul 2008]