

## Product datasheet for **RC402651**

### 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:	T55P
Affected Codon#:	55
Affected NT#:	163
Nucleotide Mutation:	MAP2K1 Mutant (T55P), Myc-DDK-tagged ORF clone of Homo sapiens mitogen-activated protein kinase kinase 1 (MAP2K1) as transfection-ready DNA
Effect:	Costello 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-MluI



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**ORF Nucleotide Sequence:**

>RC402651 representing NM\_002755  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**GCGATCGCC**

ATGCCAAGAAGAAGCCGACGCCATCCAGCTGAACCCGGCCCCGACGGCTCTGCAGTTAACGGGACCA  
 GCTCTGCGGAGACCAACTTGGAGCCTTGCAGAAGAAGCTGGAGGAGCTAGAGCTTGATGAGCAGCAGCG  
 AAAGCGCCTTGAGGCCTTTCTCCCAAGCAGAAGGTGGGAGAACTGAAGGATGACGACTTTGAGAAG  
 ATCAGTGAGCTGGGGCTGGCAATGGCGGTGTGGTGTCAAGGTCTCCACAAGCCTTCTGGCCTGGTCA  
 TGGCCAGAAAAGCTAATTCATCTGGAGATCAAACCCGCAATCCGGAACCAGATCATAAGGGAGCTGCAGGT  
 TCTGCATGAGTCAACTCTCCGTACATCGTGGCTTCTATGGTGCCTTACAGCGATGGCGAGATCAGT  
 ATCTGCATGGAGCACATGGATGGAGTTCTCTGGATCAAGTCTGAAGAAAGCTGGAAGAATTCCTGAAC  
 AAATTTTAGGAAAAGTTAGCATTGCTGTAATAAAAGGCCTGACATATCTGAGGGAGAAGCACAAGATCAT  
 GCACAGAGATGCAAGCCCTCCAACATCTAGTCAACTCCCGTGGGAGATCAAGCTCTGTGACTTTGGG  
 GTCAGCGGGCAGCTCATCGACTCCATGGCCAACCTCTCGTGGGCACAAGGTCTACATGTCGCCAGAAA  
 GACTCCAGGGGACTCATTACTCTGTGCAGTCAGACATCTGGAGCATGGGACTGTCTCTGGTAGAGATGGC  
 GGTTGGGAGGTATCCCATCCCTCCTCCAGATGCCAAGGAGCTGGAGCTGATGTTGGGTGCCAGGTGGAA  
 GGAGATGCGGCTGAGACCCACCCAGGCCAAGGACCCCGGGAGGCCCTTAGCTCATACGGAATGGACA  
 GCCGACCTCCCATGGCAATTTTGGATTGTTGGATTACATAGTCAACGAGCCTCTCCAAAACCTGCCAG  
 TGGAGTGTTCAGTCTGGAATTTCAAGATTTTGTGAATAAATGCTTAATAAAAAACCCCGCAGAGAGACA  
 GATTTGAAGCAACTCATGGTTCATGCTTTTATCAAGAGATCTGATGCTGAGGAAGTGGATTTTGCAGGTT  
 GGCTCTGCTCCACCATCGGCCTTAACCAGCCCAGCACACCAACCCATGCTGCTGGCGTC

AG**CGGACCG**ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCC  
 TGGATTACAAGGATGACGACGA TAAGGTTTAA

**Protein Sequence:**

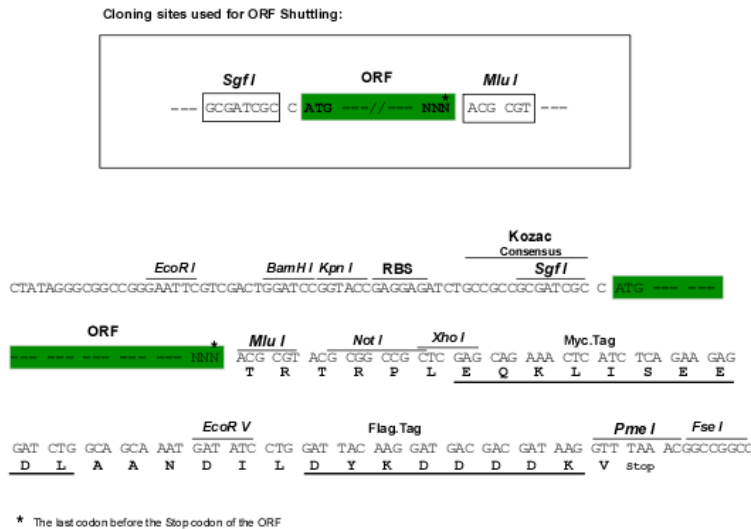
>RC402651 representing NM\_002755  
 Red=Cloning site Green=Tags(s)

MPKKKPTPIQLNPAPDGSVNGTSSAETNLEALQKKLEELDEQQRKLEAFLPQKQKVGELKDDDFEK  
 ISELGAGNGGVVFKVSHKPSGLVMARKLIHLEIKPAIRNQIIRELQVLHECNSPYIVGFYGFYSDGEIS  
 ICMEHMDGGSLDQVLKAGRIPEQILGKYSIAVIKGLTYLREKHKIMHRDVKPSNILVNSRGEIKLCDFG  
 VSGQLIDSMANSFVGRSPERLQGTHYSVQSDIWSMGLSLVEMAVGRYPIPPDAKELELMFGCQVE  
 GDAAETPPRPRTPGRPLSSYGMSRPPMAIFELLDYIVNEPPPKLPSGVFSLEFQDFVNKCLIKNPAERA  
 DLKQLMVHAFIKRSDAEVDFAGWLCSTIGLNQSPSTPHAAGV

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

<b>Protein Pathways:</b>	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
<b>MW:</b>	43.2 kDa
<b>Gene Summary:</b>	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]