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Product datasheet for SC323627

MEK2 (MAP2K2) (NM_030662) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	MEK2 (MAP2K2) (NM_030662) Human Untagged Clone
Tag:	Tag Free
Symbol:	MEK2
Synonyms:	CFC4; MAPKK2; MEK2; MKK2; PRKMK2
Mammalian Cell Selection:	None
Vector:	pCMV6-XL4
E. coli Selection:	Ampicillin (100 ug/mL)

Fully Sequenced ORF:

>OriGene ORF within SC323627 sequence for NM_030662 edited (data generated by NextGen Sequencing)

ATGCTGGCCCGGAGGAAGCCGGTGCTGCCGGCGCTCACCATCAACCCTACCATCGCCGAG
GGCCCATCCCCTACCAGCGAGGGCGCCTCCGAGGCAAACCTGGTGGACCTGCAGAAGAAG
CTGGAGGAGCTGGAACTTGACGAGCAGCAGAAGAAGCGGCTGGAAGCCTTTCTCACCCAG
AAAGCCAAGGTCGGCGAACTCAAAGACGATGACTTCGAAAGGATCTCAGAGCTGGGCGCG
GGCAACGGCGGGGTGGTCACCAAAGTCCAGCACAGACCCTCGGGCCTCATCATGGCCAGG
ATGCTGATCCACCTTGAGATCAAGCCGGCCATCCGGAACCAGATCATCCGCGAGCTGCAG
GTCCTGCACGAATGCAACTCGCCGTACATCGTGGGCTTCTACGGGGCCTTCTACAGTGAC
GGGGAGATCAGCATTTGCATGGAACACATGGACGGCGGCTCCCTGGACCAGGTGCTGAAA
GAGGCCAAGAGGATTCCCGAGGAGATCCTGGGGAAAGTCAGCATCGCGGTTCTCCGGGGC
TTGGCGTACCTCCGAGAGAAGCACCAGATCATGCACCGAGATGTGAAGCCCTCCAACATC
CTCGTGAACTCTAGAGGGGAGATCAAGCTGTGTGACTTCGGGGTGAGCGGCCAGCTCATC
GACTCCATGGCCAACTCCTTCGTGGGCACGCGCTCCTACATGGCTCCGGAGCGGTTGCAG
GGCACACATTACTCGGTGCAGTCGGACATCTGGAGCATGGGCCTGTCCCTGGTGGAGCTG
GCCGTCGGAAGGTACCCCATCCCCCCGCCCGACGCCAAAGAGCTGGAGGCCATCTTTGGC
CGGCCCGTGGTCGACGGGGAAGAAGGAGAGCCTCACAGCATCTCGCCTCGGCCGAGGCCC
CCCGGGCGCCCCGTCAGCGGTCACGGGATGGATAGCCGGCCTGCCATGGCCATCTTTGAA
CTCCTGGACTATATTGTGAACGAGCCACCTCCTAAGCTGCCCAACGGTGTGTTCACCCCC
GACTTCCAGGAGTTTGTCAATAAATGCCTCATCAAGAACCCAGCGGAGCGGGCGGACCTG
AAGATGCTCACAAACCACACCTTCATCAAGCGGTCCGAGGTGGAAGAAGTGGATTTTGCC
GGCTGGTTGTGTAAAACCCTGCGGCTGAACCAGCCCGGCACACCCACGCGCACCGCCGTG
TGA

Clone variation with respect to NM_030662.3
302 a=>t

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5' Read Nucleotide Sequence:

>OriGene 5' read for mutant NM_030662 unedited
CCCGCCCGTTGAGCAATGGGCGGTAGGCGTGTACGGTGGGAGGTCTATATAAGCAGAGCTCGTTTAGTGA
ACCGTCAGAATTTTGTAATACGACTCACTATAGGGCGGCCGCGAATTCGGCACGAGGGGCTGCGGCGTCA
GCCTTCTTCGGGCCTCGGCAGCGGTAGCGGCTCGCTCGCCTCAGCCCCAGCGCCCCTCGGCTACCCTCGG
CCCAGGCCCGCAGCGCCGCCCGCCCTCGGCCGCCCCGACGCCGGCCTGGGCCGCGGCCGCAGCCCCGGGC
TCGCGTAGGCGCCGACCGCTCCCGGCCCGCCCCCTATGGGCCCCGGCTAGAGGCGCCGCCGCCGCCGGCG
CGCGGAGCCCCGATGCTGGCCCGGAGGAAGCCGTTGCTGCCGGCGCTCACCATCAACCCTACATCGCCGA
GGGCCATCCCCTACCAGCGAGGGCGCCTCGAGGCAAACTTGTGGAACCTGCAAAAGAAGCTGGAGGAGCT
TGAACCTTGCCAAGCACCAAGAACGGCTGGAACCTTTCTAACCAAAAGACAAGGTGGCAAACTCAAGACA
GATGACTTAAAAAGTT

Kinase Domain Sequence:

>SC323627 kinase domain raw sequence. By performing BLASTX analysis with this sequence against NCBI refernce protein database, you can confirm the presence of the kinase-deficient mutation
TRSGSGACTCAAGAGATGATTCKAAGGATCTCAGAGCTGGGCGCGGGCAACGGCGGGGTGGTCACCAWAG
TCCAGCACAGACCCTCGGGCCTCATCATGGCCAGGATGCTGATCCACCTTGAGATCAAGCCGGCCATCCG
GAACCAGATCATCCGCGAGCTGCAGGTCCTGCACGAATGCAACTCGCCGTACATCGTGGGCTTCTACGGG
GCCTTCTACAGTGACGGGGAGATCAGCATTTGCATGGAACACATG

Restriction Sites: Please inquire

ACCN: NM_030662

Insert Size: 1810 bp

OTI Disclaimer: Our molecular clone sequence data has been matched to the reference identifier above as a point of reference. Note that the complete sequence of our molecular clones may differ from the sequence published for this corresponding reference, e.g., by representing an alternative RNA splicing form or single nucleotide polymorphism (SNP).

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_030662.2, NP_109587.1

RefSeq Size: 1759 bp

RefSeq ORF: 1203 bp

Locus ID: 5605

UniProt ID: P36507

Cytogenetics:	19p13.3
Domains:	pkinase, TyrKc, S_TKc
Protein Families:	Druggable Genome, Protein Kinase
Protein Pathways:	Acute myeloid leukemia, B cell receptor signaling pathway, Bladder cancer, Chronic myeloid leukemia, Endometrial cancer, ErbB signaling pathway, Fc epsilon RI signaling pathway, 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, Pathways in cancer, Prion diseases, 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
Gene Summary:	The protein encoded by this gene is a dual specificity protein kinase that belongs to the MAP kinase kinase family. This kinase is known to play a critical role in mitogen growth factor signal transduction. It phosphorylates and thus activates MAPK1/ERK2 and MAPK2/ERK3. The activation of this kinase itself is dependent on the Ser/Thr phosphorylation by MAP kinase kinase kinases. Mutations in this gene cause cardiofaciocutaneous syndrome (CFC syndrome), a disease characterized by heart defects, cognitive disability, and distinctive facial features similar to those found in Noonan syndrome. The inhibition or degradation of this kinase is also found to be involved in the pathogenesis of Yersinia and anthrax. A pseudogene, which is located on chromosome 7, has been identified for this gene. [provided by RefSeq, Jul 2008]