

Product datasheet for MC224556

Rapgef2 (NM_001099624) Mouse Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Rapgef2 (NM_001099624) Mouse Untagged Clone
Tag:	Tag Free
Symbol:	Rapgef2
Synonyms:	5830453M24Rik; CNRasGEF; mKIAA0313; nRapGEP; Pdzgef1; RA-GEF-1
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
Fully Sequenced ORF:	>MC224556 representing NM_001099624 Red=Cloning site Blue=ORF Orange=Stop codon

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCCGCGATCGCC

ATGGCTTTCCTTGTGCGTTGCTATGCCAACTGCCTGCAGCCATGGTCCTCCAACTCCCTGCAGACTTCA
CAAACTGCACCTCACTGACAGCCTGCACCCACAGGTGACCCACGTGTCCTCCAGCCATTCAGGATGTAG
CATCACCAGCGACTCTGGGAGCAGCAGTCTTTCTGACATTTACCAGGCCACGGAGAGCGAGGCCGGTGAC
ATGGACCTGAGTGGACTGCCAGAGACGGCGTTGACTCTGAGGATGACGATGATGAGGAAGACATCGAGA
GAGCATCAGACCTCTGATGAGCAGGGACATCGTGAGGGACTGCCTGGAGAAGGACCCGATAGACAGGAC
TGACGATGACATCGAACAACACTGGAATTTATGCACCAGCTGCCGGCCTTTGCCAATATGACGATGTCA
GTAAGACGGGAGCTCTGTGCCGTGATGGTGTTCAGTGGTGGAAAGAGCTGGAACCATGTGTTAAACG
ACGGAGAAGAGCTGGATTCTGGTCAGTGATTCTCAATGGTCCGTGGAGGTGACATATCCGGATGGGAA
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GACGCGGGTAGTATTACTGTGGGTGAATAATCACTTCAATGACTTTGAAGGGATCCTGCAATGACTCGA
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GACATCAAGAAGGCCAGCCGCTACTCCATACCGGATCTCGCCGTAGACGTAGAACAGGTGATAGGCCCTCG



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AGAAGGTCAACAAGAAAAGCAAAGCCAACACCGTGGGAGGAAGAAAACAAGCTGAAGAAAATACTCGACAA
 GACCCGGATCAGCATCTTACCTCAGAAACCATAACAATGATATTGGGATTGGTCAGTCTCAAGATGATAGC
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 AGGGCAGTGCAAACGCCACAGTCTGGATGTTGCTCAGACAGGCGGGCATAAAAAGCGGGTACGCCGTAG
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 AACCTGGAGCTGGAGATGGATGAGGAGAGTCTTACAGACTGTCAGTGTGAACAGCAACCAGCA
 CATTGCCAAGAATCCTGGAGACAAAAAGCCTGTCAAGTCTGAGACCTCCCAGTGGCTCCACGTGCAGG
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 GAAGCAAGCAGAAGATACAATATCAAAATGCGTCTCTCAGCTCTCATCGCCCCACCTCACCTCAGAGC
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 AGATTTCTTACGATCCAGTATTGTGAGCAATTTCTTTTACTCGGTGCCAGTCTCTCTGCATGATGA
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 GAATCAAAGTAGAGAGAGTCTTGAACAAGCCAAATCCCGGGCCAGCTGGGCGTCTTCCACGGGCTACTGG
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 GACGCCGAGCACTACCAAGGGACTCATCGCACGGAAGGAAGGCAGGTACCGGGAGCCGCTCCCACACCT
 CCAGGCTACGTGGGCATCCCCATTGCCGATTTCCAGAAGGGCCTTGGCACCCGGCCAGGAAGCCCCGG
 ATTACAACGTGGCCCTGCAGCGGTCCCGCATGGTGGCACGGCCCACTGAGGCCCCGGCACCGGGCCAGAC
 GCCGCTGCAGCCGACGACGCCGGCCGGGAGCAAGCCACAGTGGCACAAAGCCAGCGACGCAGACCCA
 CGCCTCGCGCCCTTCCAGCCGACGGCTTCGCAGGAGCGGAGGAGGACGAAGATGAACAAGTGTCTGCTG
 TTGA

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Restriction Sites: SgfI-MluI
ACCN: NM_001099624
Insert Size: 4485 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).
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:	<ol style="list-style-type: none">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:	<u>NM_001099624.3</u> , <u>NP_001093094.2</u>
RefSeq Size:	6583 bp
RefSeq ORF:	4485 bp
Locus ID:	76089
Cytogenetics:	3 E3

Gene Summary:

Functions as a guanine nucleotide exchange factor (GEF), which activates Rap and Ras family of small GTPases by exchanging bound GDP for free GTP in a cAMP-dependent manner. Serves as a link between cell surface receptors and Rap/Ras GTPases in intracellular signaling cascades. Acts also as an effector for Rap1 by direct association with Rap1-GTP thereby leading to the amplification of Rap1-mediated signaling. Shows weak activity on HRAS. It is controversial whether RAPGEF2 binds cAMP and cGMP or not. Its binding to ligand-activated beta-1 adrenergic receptor ADRB1 leads to the Ras activation through the G(s)-alpha signaling pathway. Involved in the cAMP-induced Ras and Erk1/2 signaling pathway that leads to sustained inhibition of long term melanogenesis by reducing dendrite extension and melanin synthesis. Provides also inhibitory signals for cell proliferation of melanoma cells and promotes their apoptosis in a cAMP-independent manner. Regulates cAMP-induced neuritogenesis by mediating the Rap1/B-Raf/ERK signaling through a pathway that is independent on both PKA and RAPGEF3/RAPGEF4. Involved in neuron migration and in the formation of the major forebrain fiber connections forming the corpus callosum, the anterior commissure and the hippocampal commissure during brain development. Involved in neuronal growth factor (NGF)-induced sustained activation of Rap1 at late endosomes and in brain-derived neurotrophic factor (BDNF)-induced axon outgrowth of hippocampal neurons. Plays a role in the regulation of embryonic blood vessel formation and in the establishment of basal junction integrity and endothelial barrier function. May be involved in the regulation of the vascular endothelial growth factor receptor KDR and cadherin CDH5 expression at allantois endothelial cell-cell junctions.[UniProtKB/Swiss-Prot Function]

Transcript Variant: This variant (1) represents the longer transcript and encodes the longer isoform (1).