

Product datasheet for **RC224806**

VAV1 (NM_005428) Human Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	VAV1 (NM_005428) Human Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	VAV1
Synonyms:	VAV
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)



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ORF Nucleotide Sequence:

>RC224806 representing NM_005428
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGCATCGCC**

ATGGAGCTGTGGCGCAATGCACCCACTGGCTCATCCAGTGCCGGGTGCTGCCGCCAGCCACCGGTGA
 CCTGGGATGGGGCTCAGGTGTGTGAACTGGCCAGGCCCTCCGGATGGTGTCTTCTGTGTCAGCTGCT
 TAACAACCTGCTACCCCATGCCATCAACCTGCGTGAGGTCAACCTGCGCCCCAGATGTCCAGTTCCTG
 TGCCTTAAGAACATTAGAACCTTCTGTCCACCTGCTGTGAGAAGTTCGGCCTCAAGCGGAGCGAGCTCT
 TCGAAGCCTTTGACCTCTTCGATGTGCAGGATTTGGCAAGGTACCTACACCCTGTCTGCTGTCTGCTG
 GACCCCGATCGCCGAGAACAGGGGGATCATGCCCTTCCCACCGAGGAGGAGTGTAGGTGATGAAGAC
 ATCTACAGTGGCCTGTCCGACCAGATCGACGACACGGTGGAGGAGGATGAGGACCTGTATGACTGCGTGG
 AGAATGAGGAGGGGAAGGCGACGAGATCTATGAGGACCTCATGCGCTCGGAGCCCGTGTCCATGCCGCC
 CAAGATGACAGAGTATGACAAGCGCTGCTGCTGCCTGCGGGAGATCCAGCAGACGGAGGAGAAGTACACT
 GACACGCTGGGCTCCATCCAGCAGCATTCTTGAAGCCCTGCAACGGTTCCTGAAACCTCAAGACATTG
 AGATCATCTTTATCAACATTGAGGACCTGCTTCGTGTTTACTACTTCTAAAGGAGATGAAGGAAGC
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 GGCCGCTACTGCAGCCAGGTGGAGTCCAGCAGCAAAACCTGGACCGTGTGGCCGAGCCCGGGAGGACG
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 GGTGCCTATGCAGCGAGTCTCAAATATCACCTCTTCTCCAGGAGCTGGTGAACACACGAGGAGGGC
 ATGGAGAAGGAGAACCTGCGGCTGGCCCTGGATGCCATGAGGGACCTGGCTCAGTGCCTGAACAGGTTCA
 AGCGGACAACGAGACACTGCGACAGATCACCAATTTCCAGCTGTCCATTGAGAACCTGGACCACTTCT
 GGCTCACTATGGCCGGCCCAAGATCGACGGGAACTCAAGATCACCTCGGTGGAACGCGCTCCAAGATG
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 TTGAAGAAGAAGTGGATGGAGCAGTTTGGATGGCCATCTCCAACATCTATCCGGAGAATGCCACCGCCA
 ACGGGCATGACTTCCAGATGTTCTCTTTGAGGAGACCACATCCTGCAAGGCTGTCAGATGCTGCTTAG
 AGGTACCTTCTATCAGGGCTACCGCTGCCATCGGTGCCGGGCATCTGCACACAAGGAGTGTCTGGGGAGG
 GTCCTCCATGTGGCCGACATGGCAAGATTTCCAGGAACTATGAAGAAGGACAAACTACATCGCAGGG
 CTCAGGACAAAAAGAGGAATGAGCTGGTCTGCCAAGATGGAGGTGTTTCAGGAATACTACGGGCTTCC
 TCCACCCCTGGAGCCATTGGACCTTTCTACGGCTCAACCCTGGAGACATTGTGGAGCTCACGAAGGCT
 GAGGCTGAACAGAACTGGTGGGAGGGCAGAAAATACATCTACTAATGAAATGGCTGGTTTCTTGTAAACA
 GGGTGAAGCCCTATGTCCATGGCCCTCCTCAGGACCTGTCTGTTTCATCTCTGGTACGCAGGCCCATGGA
 GCGGGCAGGGGCAGAGAGCATCTGGCCAAACCGCTCGGACGGGACTTCTTGGTGCAGGAGGGTGAAG
 GATGCAGCAGAAATTTGCCATCAGCATTAAATAAACGTCGAGGTCAAGCACATTAATAATCATGACAGCAG
 AAGGACTGTACCGGATCACAGAGAAAAAGGCTTCCGGGGCTTACGGAGCTGGTGGAGTTTACCAGCA
 GAACTCTCTAAAGGATTGCTTCAAGTCTCTGGACACCACCTTGCAGTTCCTTCAAGGAGCCTGAAAAA
 AGAACCATCAGCAGGCCAGCAGTGGGAAGCACAAGTATTTGGCACAGCCAAAGCCGCTATGACTTCT
 GCGCCCGAGACCGATCAGAGCTGTGCTCAAGGAGGTGACATCAAGATCCTTAACAAGAAGGGACA
 GCAAGGCTGGTGGCAGGGGAGATCTATGGCCGGTGGCTGTTCCCTGCCAATACGTGGAGGAAGAT
 TATTCTGAATACTGC

ACCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC224806 representing NM_005428
 Red=Cloning site Green=Tags(s)

MELWRQCTHWLIQCRVLPSSHRTVDGAQVCELAQALRDGVLLCQLLNLLPHAINLREVNLRPQMSQFL
 CLKNIRTFLLSTCCFKGLKRSELEAFDLFDVQDFGKVIYTLASLWTPAQNRGIMPFPTEESVGD
 IYSGLSQIDDTVEEDEDLYDCVENEEAEGDEIYEDLMRSEPVSMPPKMTEYDKRCCCLREIQTEEKY
 DTLGSIQQHFLKPLQRFLKPDIEIIFINIEDLLRVHHTFLKEMKEALGTPGAANLYQVFIKYKERFLVY
 GRYCSQVESASKHLDRVAAAREDEVQMKLEECSSQRANNGRFTLRDMLMVPQVRVLYHLLQLVKHTQEA
 MEKENLRLALDAMRDLAQCVNEVKRDNETLRQITNFQLSIENLDQSLAHYGRPKIDGELKITSVERRSKM
 DRYAFLLDKALLICKRRGDSYDLKDFVNLHSFQVRDSSGDRDNKKWSHMFLIEDQGAQGYELFFKTRE
 LKKKWMEQFEMASNIYPENATANGHDFQMFSEETTCKACQMLLRGTFYQGYRCHRCRASAHKECLGR
 VPPCGRHGQDFPGTMKKDKLHRRADKKRNEGLPKMEVFQEYYGLPPPGAIGPFLRLNPGDVELTKA
 EAEQNWWEGRNTSTNEIGWPCNRVKPYVHGPPQDLSVHLWYAGPMERAGAESILANRSDGTFLVRQVK
 DAAEFAISIKYNVEVKHIKIMTAEGLYRITEKKAFRGLTELVFYQNSLKDCFKSLDITLQFPFKEPEK
 RTISRPVAVGSTKYFGTAKARYDFCARDRELSLKEGDIKILNKKGQQGWWRGEIYGRVGFPPANYVEED
 YSEYC

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6219_d06.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:

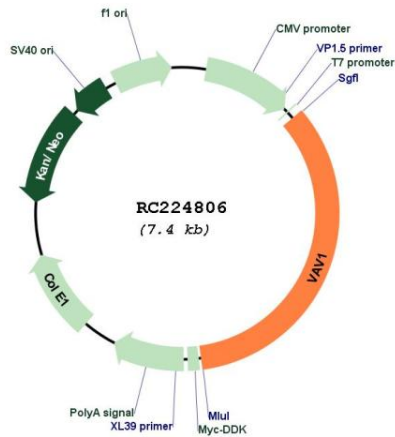


* The last codon before the Stop codon of the ORF

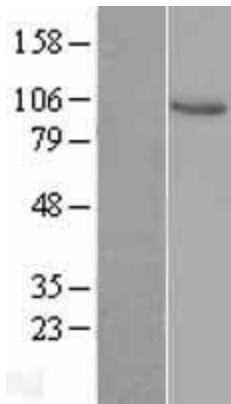
ACCN:	NM_005428
ORF Size:	2535 bp
OTI Disclaimer:	<p>Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.</p> <p>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</p>
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:	<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:	NM_005428.4
RefSeq Size:	2888 bp
RefSeq ORF:	2538 bp
Locus ID:	7409
UniProt ID:	P15498
Cytogenetics:	19p13.3
Domains:	RhoGEF, SH2, SH3, CH, PH, DAG_PE-bind
Protein Families:	Druggable Genome, Transcription Factors
Protein Pathways:	B cell receptor signaling pathway, Chemokine signaling pathway, Fc epsilon RI signaling pathway, Fc gamma R-mediated phagocytosis, Focal adhesion, Leukocyte transendothelial migration, Natural killer cell mediated cytotoxicity, Regulation of actin cytoskeleton, T cell receptor signaling pathway
MW:	98.1 kDa

Gene Summary:

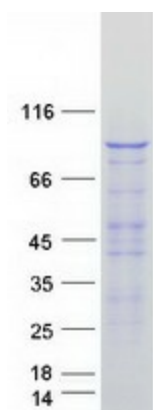
This gene is a member of the VAV gene family. The VAV proteins are guanine nucleotide exchange factors (GEFs) for Rho family GTPases that activate pathways leading to actin cytoskeletal rearrangements and transcriptional alterations. The encoded protein is important in hematopoiesis, playing a role in T-cell and B-cell development and activation. The encoded protein has been identified as the specific binding partner of Nef proteins from HIV-1. Coexpression and binding of these partners initiates profound morphological changes, cytoskeletal rearrangements and the JNK/SAPK signaling cascade, leading to increased levels of viral transcription and replication. Alternatively spliced transcript variants encoding multiple isoforms have been observed for this gene. [provided by RefSeq, Apr 2012]

Product images:


Circular map for RC224806



Western blot validation of overexpression lysate (Cat# [LY417322]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC224806 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified VAV1 protein (Cat# [TP324806]). The protein was produced from HEK293T cells transfected with VAV1 cDNA clone (Cat# RC224806) using MegaTran 2.0 (Cat# [TT210002]).