

Product datasheet for **SC117557**

Rab5 (RAB5A) (NM_004162) Human Untagged Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Rab5 (RAB5A) (NM_004162) Human Untagged Clone
Tag:	Tag Free
Symbol:	Rab5
Synonyms:	RAB5
Mammalian Cell Selection:	None
Vector:	<u>pCMV6-XL5</u>
E. coli Selection:	Ampicillin (100 ug/mL)
Fully Sequenced ORF:	>OriGene ORF within SC117557 sequence for NM_004162 edited (data generated by NextGen Sequencing) ATGGCTAGTCGAGGCGCAACAAGACCCAAACGGGCCAAATACTGGAATAAAATATGCCAG TTCAAAC TAGACTTCTGGGAGAGTCCGCTGTTGGCAAATCAAGCCTAGTGCTTCGTTTT GTGAAAGGCCAATTTTCATGAATTTCAAGAGAGTACCATTGGGGCTGCTTTTCTAACCCAA ACTGTATGTCTTGATGACACTACAGTAAAGTTTAAAATATGGGATACAGCTGGTCAAGAA CGATACCATAGCCTAGCACCAATGTACTACAGAGGAGCACAAGCAGCCATAGTTGTATAT GATATCACAATGAGGAGTCCTTTGCAAGAGCAAAAAATTGGGTTAAAGAACTTCAGAGG CAAGCAAGTCCTAACATTGTAATAGCTTTATCGGGAAACAAGCCGACCTAGCAAATAAA AGAGCAGTAGATTTCCAGGAAGCACAGTCCTATGCAGATGACAATAGTTTATTATTCATG GAGACATCCGCTAAAACATCAATGAATGTAATGAAATATTCATGGCAATAGCTAAAAAA TTGCCAAAGAATGAACCACAAAATCCAGGAGCAAATTCTGCCAGAGGAAGAGGAGTAGAC CTTACCGAACCCACACAACCAACCGGAATCAGTGTTGTAGTAACTAA Clone variation with respect to NM_004162.4 42 g=>t



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5' Read Nucleotide Sequence:

>OriGene 5' read for NM_004162 unedited
 TTTGTATACGACTCCTATAGGGCGGCCGGAATTCGCACGAGGGCGCTAAGAGCAGGCGA
 CGCCGCCGCCACCACCACCGCCATAGATACTCTCATCCTACGGGCCACGCCTGGG
 CCTTGCTGCCAGGAAGCTTCGGCCCCGAGCTCGGCTTGTGCGGTCTCAGGTTTCTTTA
 CCTCCAGAAAGAAGAATATTGGCCCTTGAATTCTGGAAGTTCATTGAAGAGTCTGAAAT
 TAGGGACTTATTTCAAATTTGGACATGGCTAGTCGAGGCGCAACAAGACCCAACGGGCCA
 AATACTGGAAATAAAATATGCCAGTTCAAAGTACTTCTGGGAGAGTCCGCTGTTGGC
 AAATCAAGCCTAGTGCTTCGTTTTGTGAAAGGCCAATTCATGAATTTCAAGAGAGTACC
 ATTGGGGCTGCTTTTCTAACCCAACTGTATGTCTTGATGACACTACAGTAAAGTTTGAA
 ATATGGGATACAGCTGGTCAAGAACGATACCATAGCCTAGCACCAATGTACTACAGAGGA
 GCACAAGCAGCCATAGTTGTATATGATATCACAAATGAGGAGTCTTTGCAAGAGCAAAA
 AATTGGGTTAAAGAACTTCAGAGGCAAGCAAGTCTAACATTGTAATAGCTTTATCGGGA
 AACAAAGGCCGACCTAGCAATAAAAGAGCAGTAGATTTCCAGGAAGCACAGTCTATGCAG
 ATGACAATAGTTTATTATTCATGGAGACATCCGCTAAACATCAATGAATGTAATGAAAT
 ATTCATGGGCATAGCNTANNAATTGCCAAAAGATGACCACANATCCAGNAGCANATCTG
 CCAGAGGAGNAGGAGTAGACCTTACCGACCCACNANCANCAGNNNATCATGGTGTAGTA
 ACTAAC

3' Read Nucleotide Sequence:

>OriGene 3' read for NM_004162 unedited
 GCACGCAATCTAGAGTCGAGTTTTTTTTTTTTTTTTTTTGGCTTTTTATACCACTTTATTCC
 AACCTGAGCACCTCAATATAAACTAAACTGGTGAACCGTTTTCTAATTCTGCATTA
 TCATAAATGTACAAGTTCTCTAGCAGTCCAACACTTAAATAGATTAAATCATCTCTGAC
 ACATGGTAGCTTTCATATAATGAAAATACCTAAAATAATTAGTGAATATACTGAACTGA
 TCAAAATAAAATGAACTTTGAAAGGAAGCTGCAAGATTGTTACTAACATATTCCAATA
 CTTTATGTTACAAATTACGGGTACATTGTTTATTATGGTCTAGCCATGGAGGAACAACT
 GAAGCCCTTCTGTCAAAGGGGAGAGAGAAATAATTAGCTGTTTTAGTAACAGTACAT
 TTTGTATGCTTTAAGCAACTCTTAAATATTACAGAAAAGTAATACAGATATGGAGACTA
 CAATGCAGTACCCTATTTACAGTACAGCTGAAGATCGAATTTAAAATAATCAAGTTTGAA
 TATACATAAATGTTAGTGCATTGACTATATTATGTCAAAGGGAACAAAAGCCCTCCC
 CACCCCAACAACAAAACCTGTGTAATGGCCAGCGGTGATTAATTAGAAATCACAGACAC
 CTGGTTTTATTTTCAATTTTTGTTAAAGAACTCACATGTTTGAAAGGAACACTGACCATTAAA
 GTGCATTNATTAGTTCTCAAATTCCTAAAACAAGATGGGGTTGCATCTGATTTTTACCC
 CATTTAAAAAACCAGACTGGGTATAATAAGATACCATTATACTCTTCCCACCCTG
 ACCTGTTATGTGGGATATTTCTTGGGTAATTATTAATGTGGAGACATTTTATACAGT
 ACCAGAGAATGACATTGCTGNACTATGCTAGCATATAATACTTAAATCTCTAACAGAA
 GT

Restriction Sites:

NotI-NotI

ACCN:

NM_004162

Insert Size:

2190 bp

OTI Disclaimer: 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.

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](#)

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_004162.3](#), [NP_004153.2](#)

RefSeq Size: 2352 bp

RefSeq ORF: 648 bp

Locus ID: 5868

UniProt ID: [P20339](#)

Cytogenetics: 3p24.3

Domains: ras, RAN, RAS, RHO, RAB

Protein Families: Druggable Genome

Protein Pathways: Amyotrophic lateral sclerosis (ALS), Endocytosis

Gene Summary:

The small GTPases Rab are key regulators of intracellular membrane trafficking, from the formation of transport vesicles to their fusion with membranes. Rabs cycle between an inactive GDP-bound form and an active GTP-bound form that is able to recruit to membranes different sets of downstream effectors directly responsible for vesicle formation, movement, tethering and fusion. RAB5A is required for the fusion of plasma membranes and early endosomes (PubMed:10818110, PubMed:14617813, PubMed:16410077, PubMed:15378032). Contributes to the regulation of filopodia extension (PubMed:14978216). Required for the exosomal release of SDCBP, CD63, PDCD6IP and syndecan (PubMed:22660413). Regulates maturation of apoptotic cell-containing phagosomes, probably downstream of DYN2 and PIK3C3 (By similarity).[UniProtKB/Swiss-Prot Function]

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