

Product datasheet for **RC203973**

RAB3A (NM_002866) Human Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
 Product Name: RAB3A (NM_002866) Human Tagged ORF Clone
 Tag: Myc-DDK
 Symbol: RAB3A
 Mammalian Cell Selection: Neomycin
 Vector: pCMV6-Entry (PS100001)
 E. coli Selection: Kanamycin (25 ug/mL)
 ORF Nucleotide Sequence: >RC203973 ORF sequence
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGATCGCC**

ATGGCATCCGCCACAGACTCGCGCTATGGGCAGAAGGAGTCCCTCGGATCAGAACTTCGACTACATGTTCA
 AGATTCTCATCATCGGCAACAGCAGCGTGGGCAAGACGTCCTTCTCCGCTATGCTGACGACTCGTT
 CACGCCTGCCTTCGTGACACCGTGGGCATCGACTCAAGGTCAAGACCATCTATCGCAACGACAAGAGG
 ATCAAGCTGCAGATCTGGGACACAGCAGGGCAAGAGCGGTACCGGACCATCACACCAGCATACTACCGGG
 GCGCTATGGGCTTCATCCTCATGTATGACATCACCAACGAGGAATCCTTCAATGCAGTGCAGGACTGGTC
 CACCCAGATCAAGACCTACTCATGGGACAATGCCAGGTGCTGCTGGTAGGAAACAAGTGTGACATGGAG
 GATGAGCGGGTGGTGTCATCAGAACGTGGCCGGCAGCTAGCTGACCACCTTGGGTTGAGTCTTTGAGG
 CAAGCGCCAAGGACAACATTAACGTCAAGCAGACCTTTGAGCGCCTGGTGGATGTCATCTGCGAGAAGAT
 GTCCGAGTCGTTGGACACGGCGGACCCTGCGGTACAGGCGCCAAGCAGGGCCACAGCTCAGTGACCAG
 CAGGTGCCACCGCACCAGGACTGCGCTGC

ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
 ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC203973 protein sequence
 Red=Cloning site Green=Tags(s)

MASATDSRYGQKESDQNFDMFKILIIIGNSSVGKTSFLFRYADDSFTPAFVSTVGIDFKVKTIYRNDKR
 IKLQIWDTAGQERYRTITTAYYRGAMGFIILMYDITNEESFNAVQDWSTQIKTYSWDNAQVLLVGNKCDME
 DERVVSSERGRQLADHLGFEFFEASAKDNINVKQTFERLVDVICEKMSSESLDTADPAVTGAKQGPQLSDQ
 QVPPHQDCAC

TRTRPLEQKLISEEDLAANDILDYKDDDDKV



Chromatograms: https://cdn.origene.com/chromatograms/mk6422_g11.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:



ACCN: NM_002866

ORF Size: 660 bp

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).

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.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

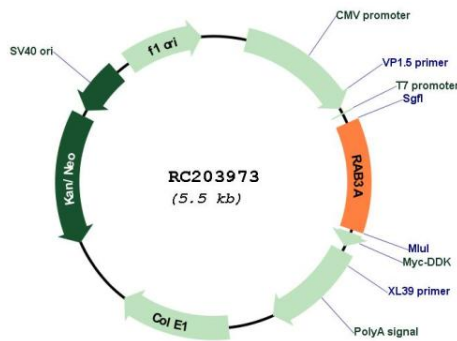
RefSeq: [NM_002866.5](#)

RefSeq Size: 1528 bp

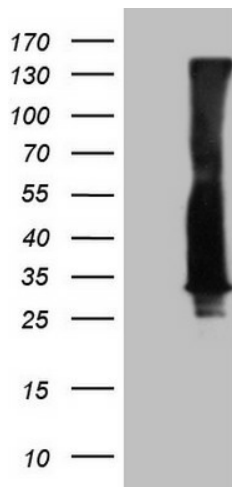
RefSeq ORF: 663 bp
Locus ID: 5864
UniProt ID: [P20336](#)
Cytogenetics: 19p13.11
Domains: ras, RAN, RAS, RHO, RAB
Protein Families: Druggable Genome
MW: 25 kDa

Gene Summary: Small GTP-binding protein that plays a central role in regulated exocytosis and secretion. Controls the recruitment, tethering and docking of secretory vesicles to the plasma membrane (By similarity). Upon stimulation, switches to its active GTP-bound form, cycles to vesicles and recruits effectors such as RIMS1, RIMS2, Rabphilin-3A/RPH3A, RPH3AL or SYTL4 to help the docking of vesicles onto the plasma membrane (By similarity). Upon GTP hydrolysis by GTPase-activating protein, dissociates from the vesicle membrane allowing the exocytosis to proceed (By similarity). Stimulates insulin secretion through interaction with RIMS2 or RPH3AL effectors in pancreatic beta cells (By similarity). Regulates calcium-dependent lysosome exocytosis and plasma membrane repair (PMR) via the interaction with 2 effectors, SYTL4 and myosin-9/MYH9 (PubMed:27325790). Acts as a positive regulator of acrosome content secretion in sperm cells by interacting with RIMS1 (PubMed:22248876, PubMed:30599141). Plays also a role in the regulation of dopamine release by interacting with synaptotagmin I/SYT (By similarity).[UniProtKB/Swiss-Prot Function]

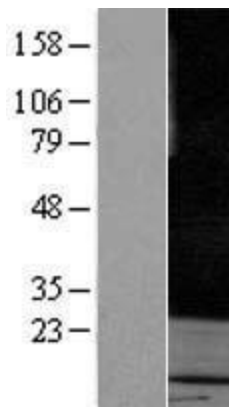
Product images:



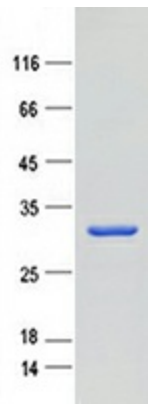
Circular map for RC203973



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY RAB3A (Cat# RC203973, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-RAB3A (Cat# [TA809483])(1:2000). Positive lysates [LY419059] (100ug) and [LC419059] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY419059]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC203973 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified RAB3A protein (Cat# [TP303973]). The protein was produced from HEK293T cells transfected with RAB3A cDNA clone (Cat# RC203973) using MegaTran 2.0 (Cat# [TT210002]).