Supplemental Materials

Molecular Biology of the Cell

Lindsay et al.

Movie 1. Myosin Va knockdown results induces the formation of GFP-Rab6A' positive tubules. A HeLa cell line stably expressing GFP-Rab6A' was transfected with control or myosin Va siRNAs for 72 hours and observed by spinning disk confocal microscopy. A *z* stack of seven planes was acquired every 2 s for a total duration of 2 minutes.

Movie 2. Myosin Va knockdown results in clustering of GFP-Rab11A-positive vesicles. HeLa cells transfected with control or myosin Va siRNAs for 72 hours and transiently expressing GFP-Rab11A observed by spinning disk confocal microscopy. A *z* stack of seven planes was acquired every 2 s for a total duration of 2 minutes.

Movie 3. Myosin Va knockdown results in clustering of GFP-Rab14-positive vesicles. HeLa cells transfected with control or myosin Va siRNAs for 72 hours and transiently expressing GFP-Rab14 observed by spinning disk confocal microscopy. A *z* stack of seven planes was acquired every 2 s for a total duration of 2 minutes.

Movie 4. Myosin Va-positive vesicles lack directionally. A431 cells stably expressing GFP-MyoVaFL(D)$_{WT}$ were observed by laser scanning confocal microscopy. Frames were acquired every 4 s for a total duration of 400 s. 5μM ionomycin was added to the culture medium after 40 s.

Movie 5. A constitutively-active mutant of myosin Va displays the same motility pattern as wild-type myosin Va. A431 cells expressing GFP-MyoVaFL(D)$_{D136A}$ were observed by laser scanning confocal microscopy. Frames were acquired every 4 s for a total duration of 240 s. (Note: ionomycin was not used).

Supplemental Table S1. Systematic yeast two-hybrid screen of myosin Va. Results from a high throughput yeast two-hybrid 'living chip' assay using pGADGH MyoVaT(F) as bait. Green boxes indicate a positive interaction (+ weak; ++ strong; +++ very strong) and orange boxes indicate no interaction. WT, wild-type; DA, dominant-active; DN, dominant-negative.

Supplemental Table S2. A list of the Rab DA and DN mutants used in the Y2H screen, and the primers used to generate the mutations.

Supplemental Table S3. A list of the siRNA sequences used in this study.

FIGURE S1

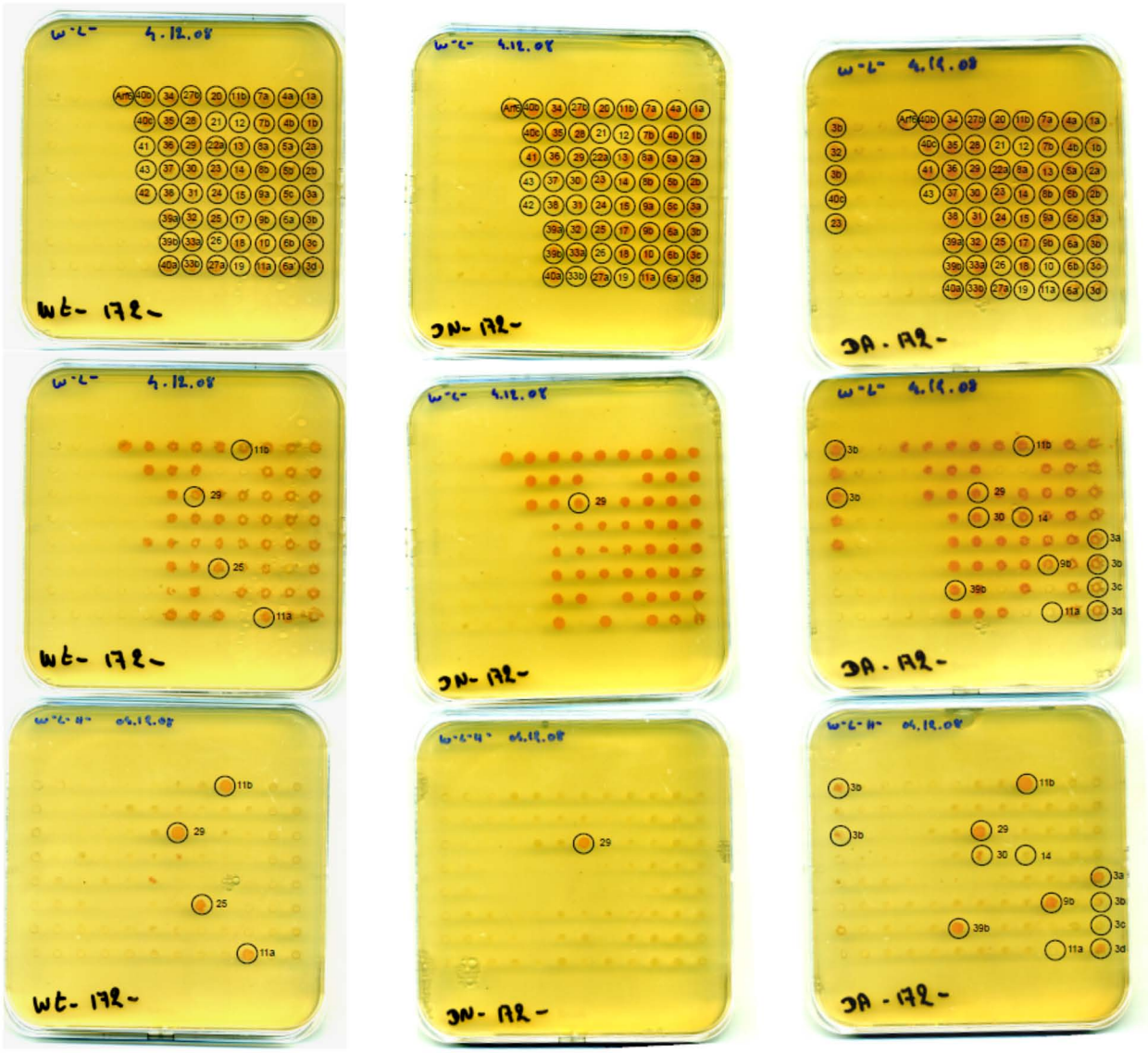


Figure S1. Systematic yeast two-hybrid screen of myosin Va isoforms. Raw data of the yeast two-hybrid 'living chip' assay. *Top Row:* Histidine-containing plates with yeast colonies co-transformed with MyoVa(F)$_{1100\text{-}1852}$ and the indicated Rab GTPase. Encircled numbers refer to Rabs. WT – wild-type, DN – Dominant-negative, DA – Dominant-active. *Middle Row:* Replica of the plates in the top row grown on histidine-containing media. *Bottom Row:* Replica of the plates in the top row grown on histidine-lacking media. Colonies that grow in the absence of histidine contain interacting fusion proteins.

FIGURE S2

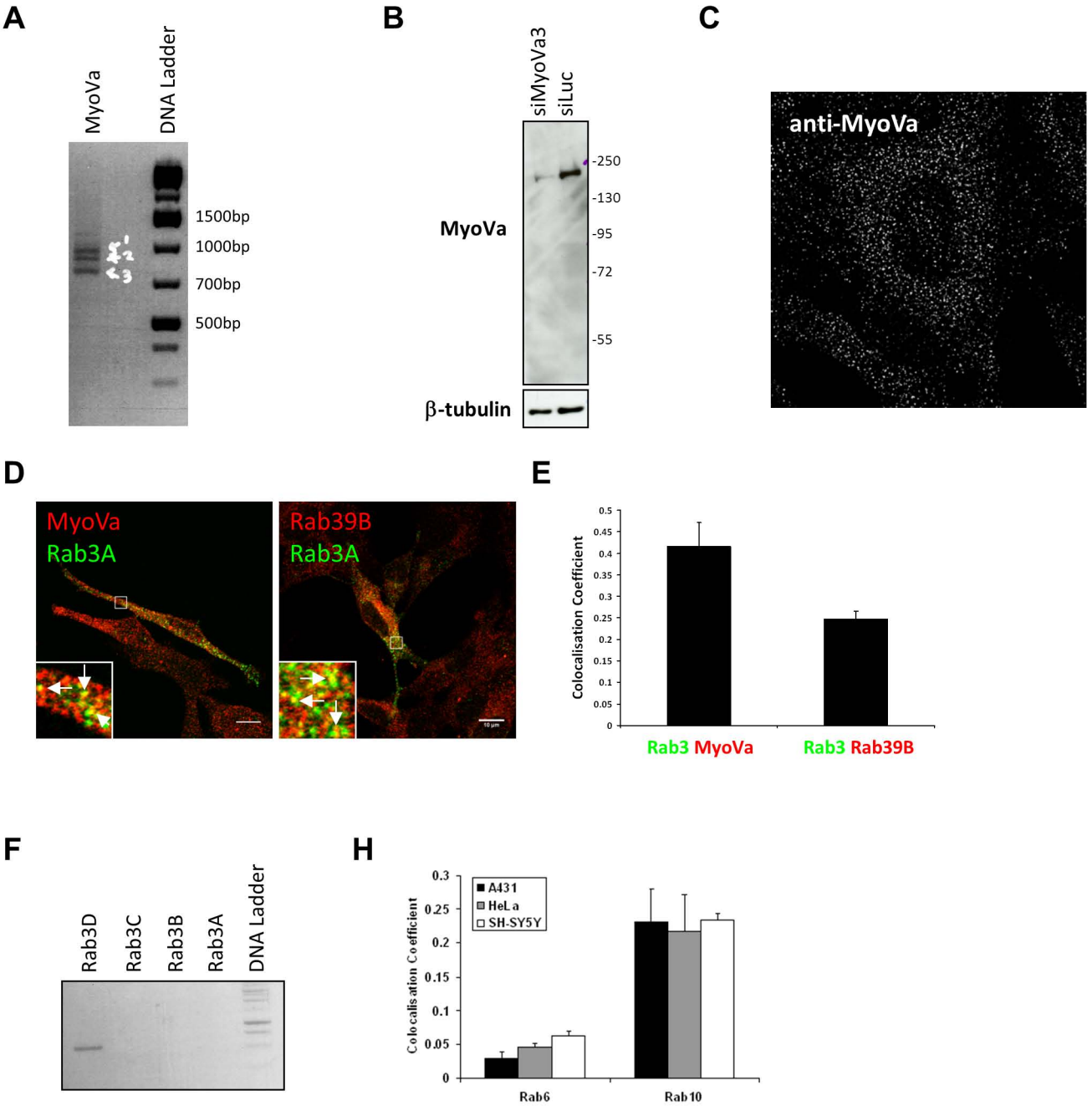


Figure S2. (A) RT-PCR performed with HeLa RNA and primers flanking the alternatively spliced region of human myosin Va. Bands were cloned into the pGEM T Easy vector and sequenced. Band 1 contained fragments of MyoVaABCDE (D isoform) and MyoVaABCEF (F isoform), band 2 was MyoVaABCE and band 3 was from an unrelated mRNA transcript. (B) Extracts from HeLa cells transfected for 72 hours with control or myosin Va siRNA were separated by SDS-PAGE and analysed by western blot with anti-myosin Va. b-tubulin was used as a loading control. (C) A HeLa cell fixed and labelled with anti-myosin Va antibody. Shown is a deconvolved image of a single section taken through the equator of the cell. (D) SH-SY5Y cells fixed and labelled with antibodies to detect endogenous Rab3A (green) and myosin Va (red) or Rab39B (red). Bar, 10μm. (E) Quantitative analysis of the level of colocalisation between Rab3A and myosin Va or Rab39B (mean ± s.e.m. n = 15 - 20 cells). (F) RT-PCR performed with HeLa RNA and primers specific for each of the four Rab3 isoforms. Only Rab3D mRNA is expressed in the HeLa cells used in this study. (G) Quantitative colocalisation of endogenous myosin Va with endogenous Rab6 and Rab10 in the indicated cell lines.

FIGURE S3

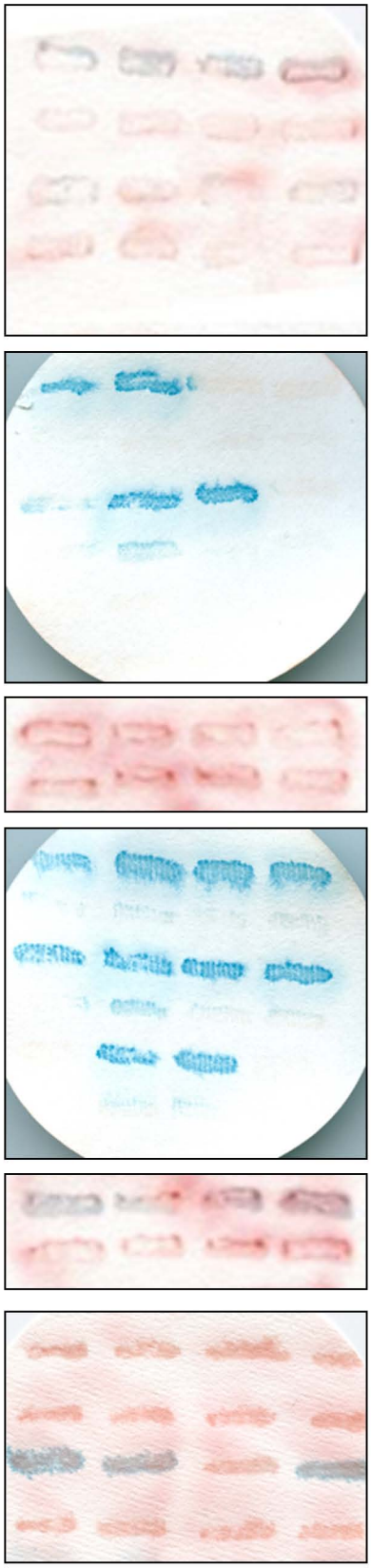


Figure S3. Secondary yeast two-hybrid screen of the interactions identified in the 'living chip' assay. Yeast patches transformed with the indicated bait and prey constructs were replica plated onto filter paper placed on agar dissolved in selection medium. After overnight incubation at 30°C the filters were removed, flash frozen in liquid nitrogen and placed on filters soaked in Z buffer containing X-gal and β-mercaptoethanol. A blue colour indicates an interaction between the bait and prey fusion constructs.

FIGURE S4

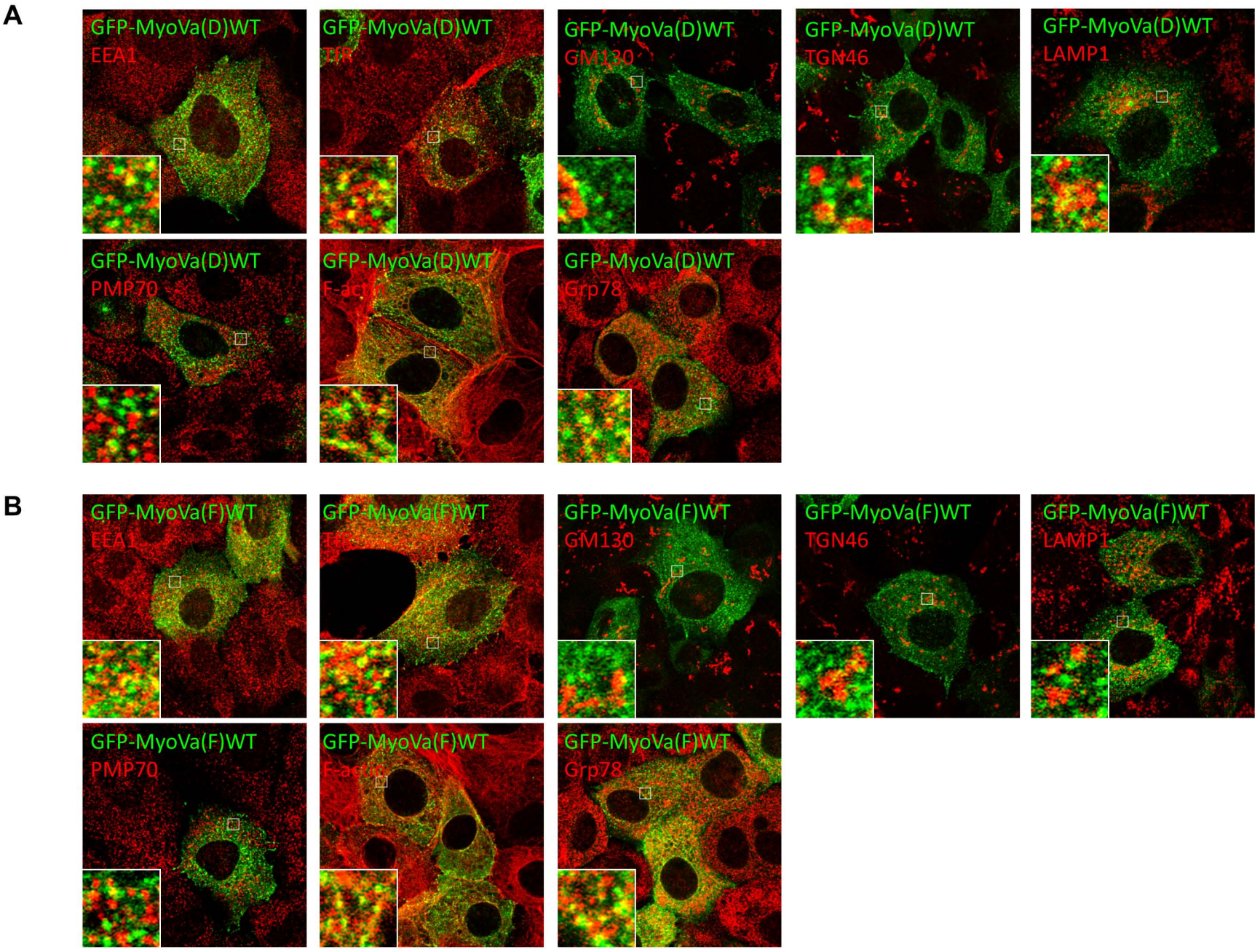

A
GFP-MyoVa(D)WT
EEA1
GFP-MyoVa(D)WT
TfR
GFP-MyoVa(D)WT
GM130
GFP-MyoVa(D)WT
TGN46
GFP-MyoVa(D)WT
LAMP1
GFP-MyoVa(D)WT
PMP70
GFP-MyoVa(D)WT
F-actin
GFP-MyoVa(D)WT
Grp78
B
GFP-MyoVa(F)WT
EEA1
GFP-MyoVa(F)WT
TfR
GFP-MyoVa(F)WT
GM130
GFP-MyoVa(F)WT
TGN46
GFP-MyoVa(F)WT
LAMP1
GFP-MyoVa(F)WT
PMP70
GFP-MyoVa(F)WT
F-actin
GFP-MyoVa(F)WT
Grp78

FIGURE S4

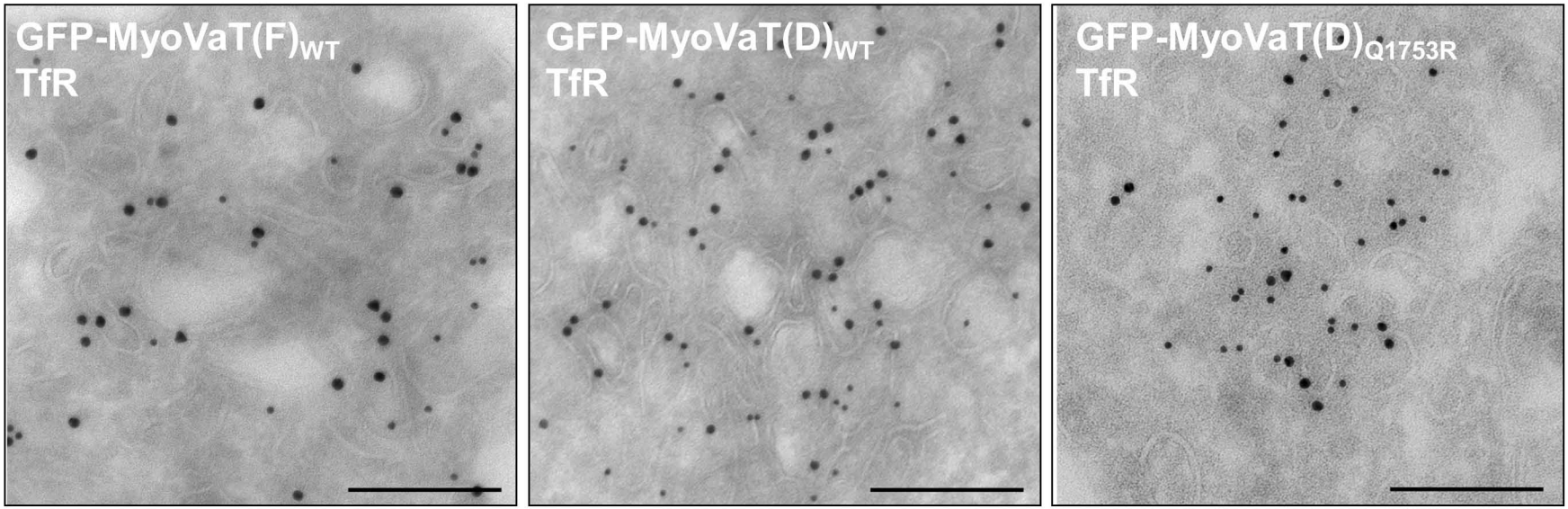
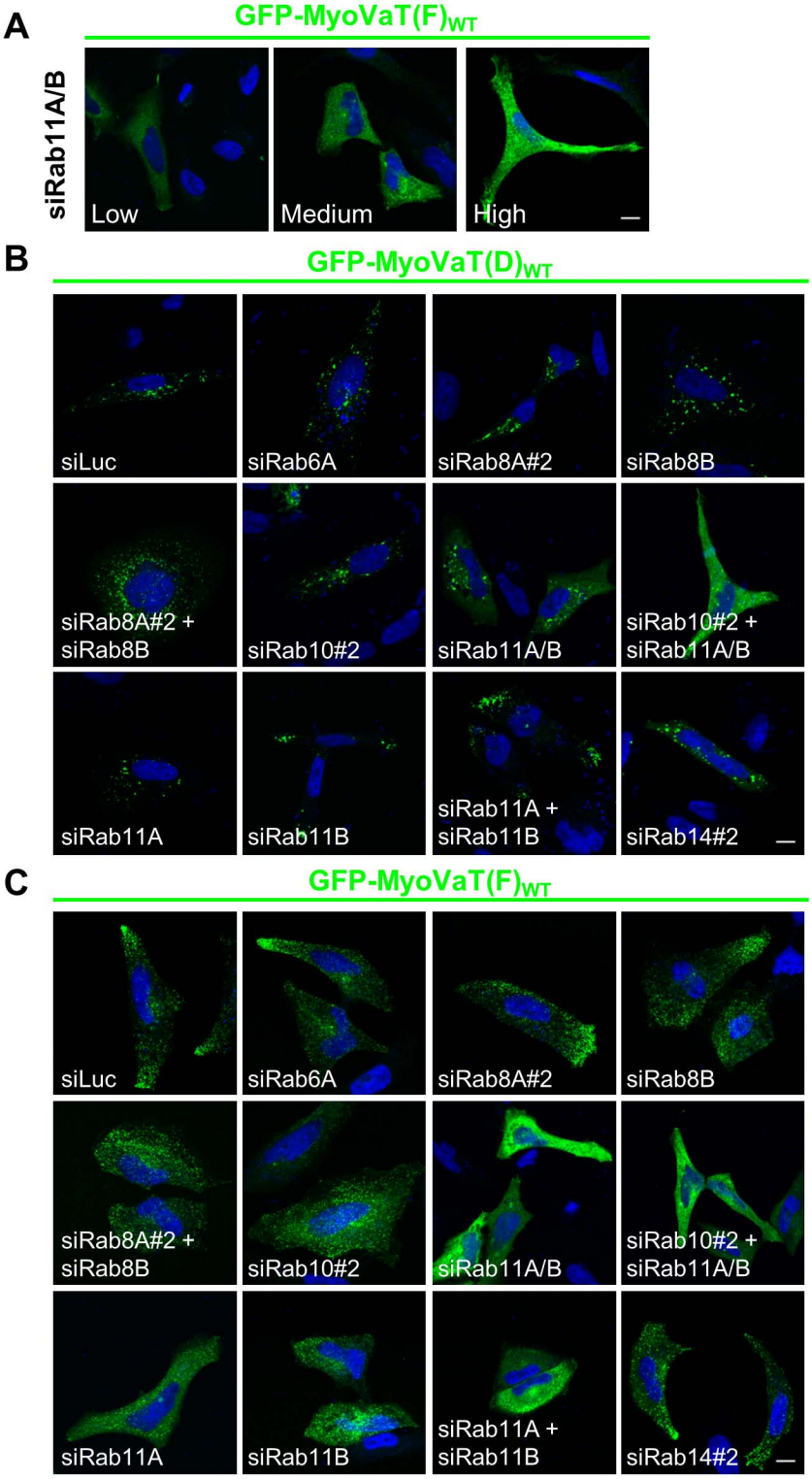
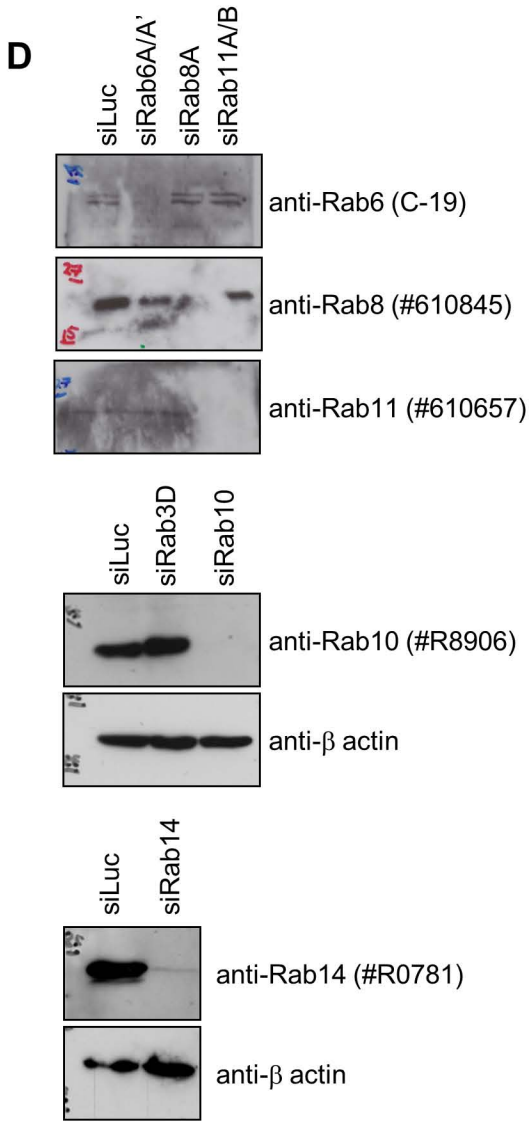


Figure S4. Myosin Va localises to compartments along the endocytic recycling pathway and the ER. (A) A431 cells expressing GFP-MyoVaFL(D)$_{WT}$ treated with 5μM ionomycin for 4 minutes prior to fixation and labelling with the indicated antibodies. (B) A431 cells expressing GFP-MyoVaFL(F)$_{WT}$ treated with 5μM ionomycin for 4 minutes prior to fixation and labelling with the indicated antibodies. (C) Electron microscopy images of HeLa cells expressing the indicated GFP-fused myosin Va tail construct processed for ultrathin cryosectioning, and double immunogold labelled with anti-GFP (15nm) and anti-TfR (10nm).Arrows indicate membrane-bound vesicles. Bar, 200nm.

FIGURE S5





E

siRab6A	5' - GAGCGGUUCAGGAGCUUGA - 3'
siRab8A#2	5' - GACAAGUUUCCAAGGAACG - 3'
siRab8B	5'- CAGGAAAGAUUCCGAACAA -3'
siRab10#2	5' - AGGGUAAUGCAGAAGUGAU - 3'
siRab11A	Dharmacon (#L-004726-005)
siRab11B	Dharmacon (#L-004727-005)
siRab14#2	5' -CCUGUUGUGUGGGUGGCAU - 3'

Figure S5. Effect of Rab knockdown on myosin Va vesicular localisation. (A - C) Single confocal sections of HeLa cells transfected with the indicated siRNA duplex for 72 hours and expressing GFP-MyoVaT(F)$_{WT}$ (A and C) or GFP-MyoVaT(D)$_{WT}$ (B). Nucleus labelled with DAPI. (A) Representative cells expressing low, medium, and high levels of GFP-MyoVaT(F)$_{WT}$. All images were recorded with the same confocal microscope settings. Bar, 10μm. (D) Representative Western blots of HeLa cell lysates transfected in parallel with the indicated siRNA duplexes for the experiment shown in Fig. 3 C - E. HeLa cells in 6-well dishes were transfected with siRNAs using HiPerFect transfection reagent and 48 hours post-transfection the cells were split into 24-well plates with or without glass coverslips. Twenty-four hours later (a total of 72 hours post-transfection) the cells in the wells without coverslips were lysed and analysed by Western blot. (E) Sequences of the siRNA duplexes used in B and C. See Table S1 for the sequences of siLuciferase and siRab11A/B.

FIGURE S6

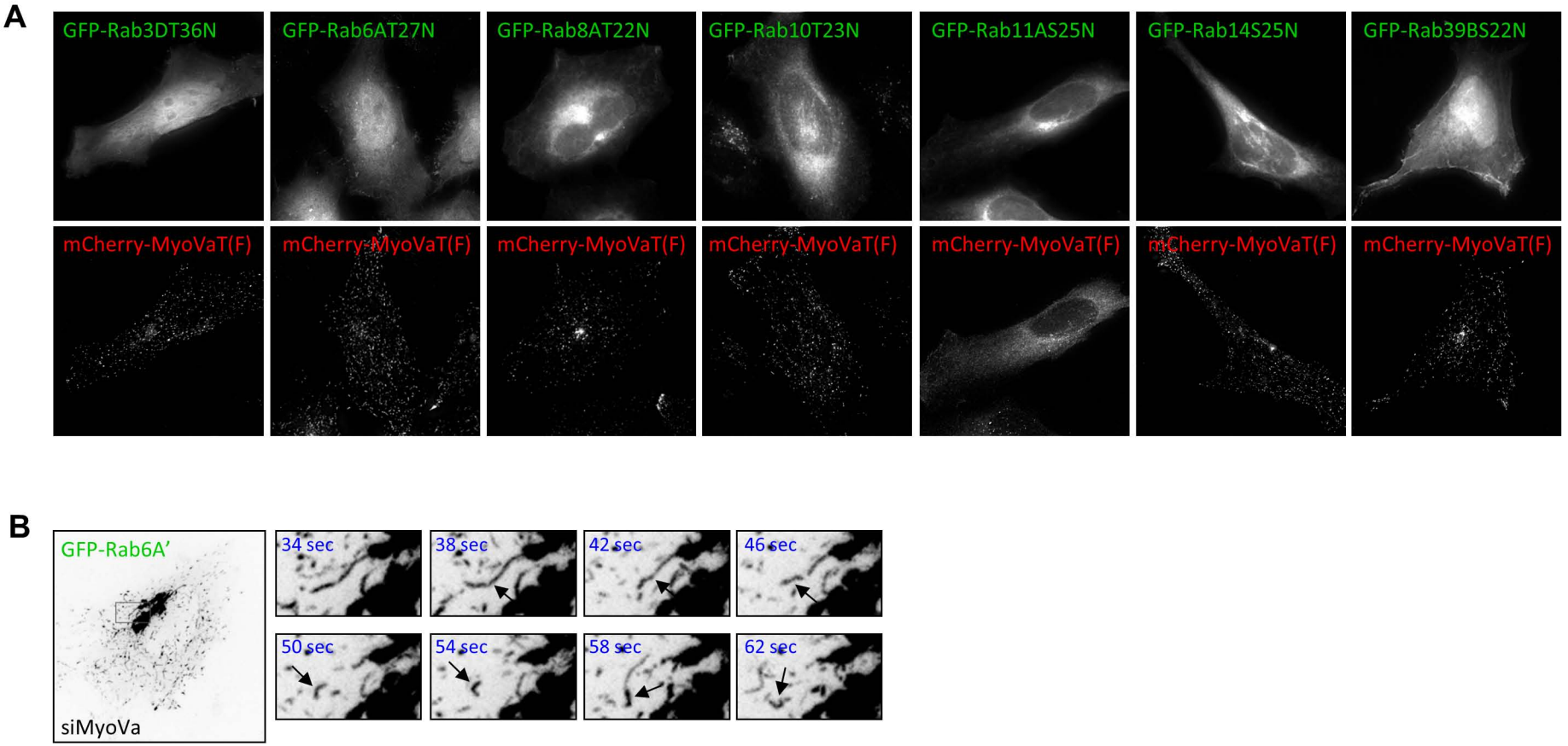


Figure S6. Dominant-negative Rab11 blocks myosin Va membrane binding. (A) HeLa cells were co-transfected with mCherry-MyoVaT(F)$_{WT}$ and GFP-fusions of the dominant-negative mutants of each interacting Rab GTPase. Transfected cells were fixed and processed for fluorescence microscopy. Shown are representative maximum intensity projections of deconvolved *z* stacks. (B) HeLa cells were transfected with control or myosin Va siRNA for 72 hours, and plasmid DNA encoding GFP-Rab6A' for the final 18 hours. A *z*-series was recorded at each time-point and shown are maximum intensity projections of a single representative time-point for each condition. The boxed region containing a tubule was magnified and frames at 4 second intervals are shown. Arrow indicates a transport carrier undergoing fission from the tubule. Shown are representative frames from Video 4.

FIGURE S7

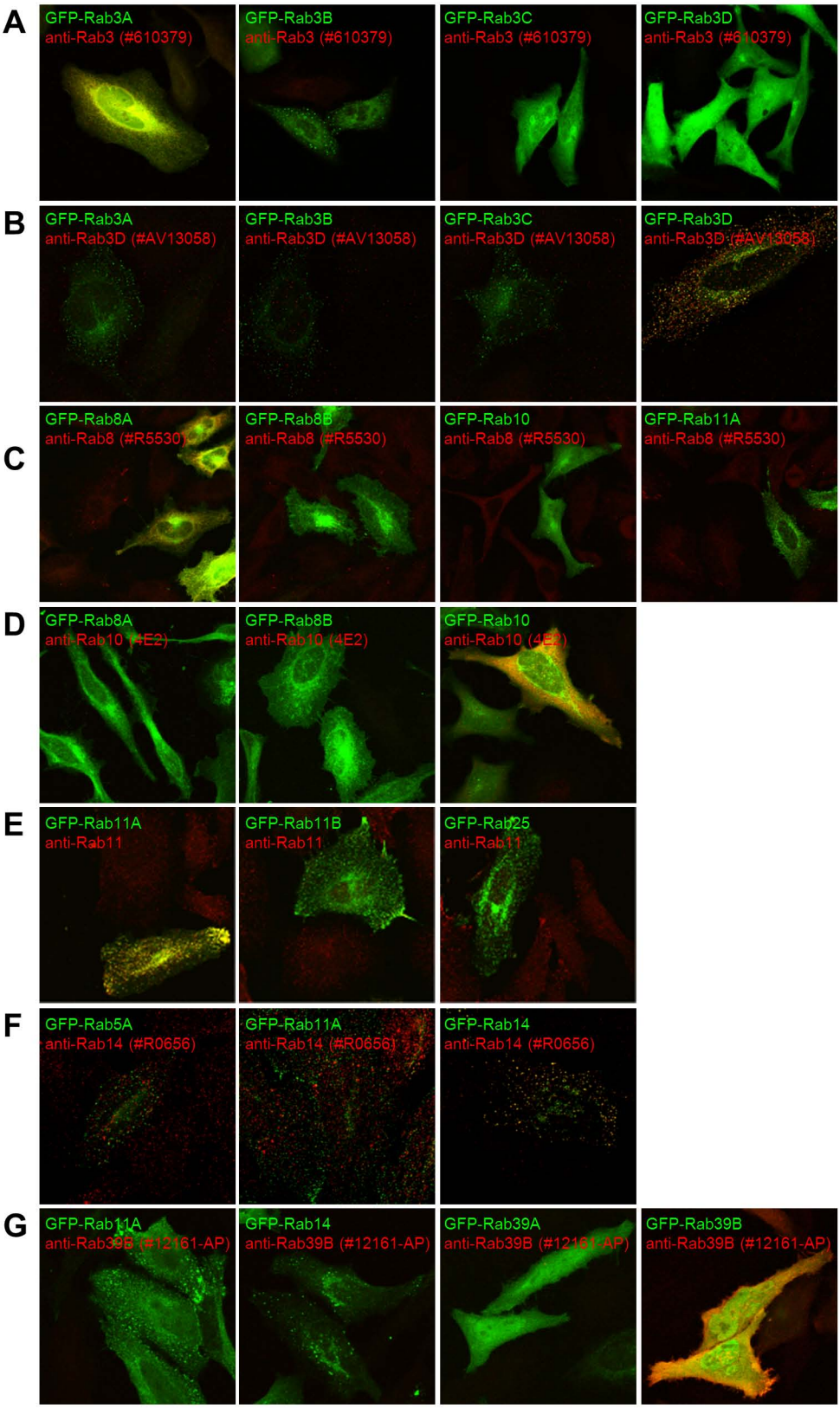


Figure S7. Characterisation of anti-Rab antibodies. HeLa cells were transfected with the indicated GFP-fused Rab GTPases (wild-type) and 24 hours later the cells were fixed and labelled with the indicated anti-Rab antibodies (red). Shown are overlay images. Each Rab antibody was tested against its target Rab and two or three of its closest relatives. (A) Mouse monoclonal anti-Rab3 (BD Biosciences) is specific for Rab3A. (B) Rabbit polyclonal anti-Rab3D (Sigma) is specific for Rab3D. (C) Rabbit polyclonal anti-Rab8 (Sigma) is specific for Rab8A. (D) Mouse monoclonal anti-Rab10 (AbCam) is specific for Rab10. (E) Rabbit polyclonal anti-Rab11 (homemade) is specific for Rab11A. (F) Rabbit polyclonal anti-Rab14 (Sigma) is specific for Rab14. (G) Rabbit polyclonal anti-Rab39B (ProteinTech) is specific for Rab39B.

Supplemental Table S1

HsRab1a	wt		HsRab6c	wt		HsRab19	wt		HsRab33b	wt	
	DA			DA			DA			DA	
	DN			DN			DN			DN	
HsRab1b	wt		HsRab7a	wt		HsRab20	wt		HsRab34	wt	
	DA			DA			DA			DA	
	DN			DN			DN			DN	
HsRab2a	wt		HsRab7b	wt		HsRab21	wt		HsRab35	wt	
	DA			DA			DA			DA	
	DN			DN			DN			DN	
HsRab2b	wt		HsRab8a	wt		HsRab22a	wt		HsRab36	wt	
	DA			DA			DA			DA	
	DN			DN			DN			DN	
HsRab3a	wt		HsRab8b	wt		HsRab23	wt		HsRab37	wt	
	DA	++		DA			DA			DA	
	DN			DN			DN			DN	
HsRab3b	wt		HsRab9a	wt		HsRab24	wt		HsRab38	wt	
	DA	+		DA			DA			DA	
	DN			DN			DN			DN	
HsRab3c	wt		HsRab9b	wt		HsRab25	wt	+	HsRab39a	wt	
	DA	+		DA	++		DA			DA	
	DN			DN			DN			DN	
HsRab3d	wt		HsRab10	wt		HsRab26	wt		HsRab39b	wt	
	DA	+		DA			DA			DA	++
	DN			DN			DN			DN	
HsRab4a	wt		HsRab11a	wt		HsRab27a	wt		HsRab40a	wt	
	DA			DA	+++		DA			DA	
	DN			DN			DN			DN	
HsRab4b	wt		HsRab11b	wt		HsRab27b	wt		HsRab40b	wt	
	DA			DA	+++		DA			DA	
	DN			DN			DN			DN	
HsRab5a	wt		HsRab12	wt		HsRab28	wt		HsRab40c	wt	
	DA			DA			DA			DA	
	DN			DN			DN			DN	
HsRab5b	wt		HsRab13	wt		HsRab29	wt	+++	HsRab41	wt	
	DA			DA			DA	+++		DA	
	DN			DN			DN	+++		DN	
HsRab5c	wt		HsRab14	wt		HsRab30	wt		HsRab42	wt	
	DA			DA	++		DA	+		DA	
	DN			DN			DN			DN	
HsRab6a	wt		HsRab15	wt		HsRab31	wt		HsRab43	wt	
	DA	++		DA			DA			DA	
	DN			DN			DN			DN	
Rab6A'	wt		HsRab17	wt		HsRab32	wt				
	DA			DA			DA				
	DN			DN			DN				
HsRab6b	wt		HsRab18	wt		HsRab33a	wt				
	DA	++		DA			DA				
	DN			DN			DN				

Supplementary Table S2

Rab Mutation	Primer Sequence (5'-3')
HsRab1a_Q70L_sens	TGGGACACAGCAGGCCTAGAAAGATTTCGAACA
HsRab1b_Q67L_sens	TGGGACACAGCGGGCCTAGAACGGTTCCGGACC
HsRab2a_Q65L_sens	TGGGATACGGCAGGGCTAGAATCCTTTCGTTCC
HsRab2b_Q65L_sens	TGGGATACGGCTGGGCTAGAATCCTTCCGTTCT
HsRab3a_Q81L_sens	TGGGACACAGCAGGGCTAGAGCGGTACCGGACC
HsRab3b_Q81L_sens	TGGGACACAGCTGGGCTAGAGCGGTACCGGACC
HsRab3c_Q89L_sens	TGGGACACAGCAGGCCTAGAAAGATACAGGACT
HsRab3d_Q81L_sens	TGGGACACAGCGGGCCTAGAGCGCTACCGCACC
HsRab4a_Q67L_sens	TGGGATACAGCAGGACTAGAACGATTCAGGTCC
HsRab4b_Q67L_sens	TGGGACACGGCTGGCCTAGAGCGGTTTCGGTCA
HsRab5a_Q79L_sens	TGGGATACAGCTGGTCTAGAACGATACCATAGC
HsRab5b_Q79L_sens	TGGGACACAGCTGGGCTAGAGCGATATCACAGC
HsRab5c_Q80L_sens	TGGGACACAGCTGGACTAGAGCGGTATCACAGC
HsRab6a_Q72L_sens	TGGGATACTGCGGGTCTAGAACGTTTCCGTAGC
HsRab6b_Q72L_sens	TGGGACACAGCTGGTCTAGAGAGGTTCCGCAGC
HsRab6c_Q72L_sens	TGGGATACGGCGGGTCTAGAACGTCTCCGTAGC
HsRab7a_Q67L_sens	TGGGACACAGCAGGACTAGAACGGTTCCAGTCT
HsRab7b_Q67L_sens	TGGGACACGGGCGGTCTAGAGCGGTTCCGCTCC
HsRab8a_Q67L_sens	TGGGACACAGCCGGTCTAGAACGGTTTCGGACG
HsRab8b_Q67L_sens	TGGGACACAGCGGGTCTAGAAAGATTCCGAACA
HsRab9a_Q66L_sens	TGGGACACGGCAGGTCTAGAGCGATTCCGAAGC
HsRab9b_Q66L_sens	TGGGACACTGCAGGGCTAGAACGTTTCAAGAGC
HsRab10_Q68L_sens	TGGGATACAGCAGGCCTAGAGCGATTTCACACC
HsRab11a_Q70L_sens	TGGGACACAGCAGGGCTAGAGCGATATCGAGCT
HsRab11b_Q70L_sens	TGGGACACCGCTGGCCTAGAGCGCTACCGCGCC
HsRab12_Q67L_sens	TTCACCGACGACACCCTATGCGAGGCCTGCAAG
HsRab13_Q67L_sens	TGGGACACGGCTGGCCTAGAGCGGTTCAAGACA
HsRab14_Q70L_sens	TGGGATACGGCAGGACTAGAGCGATTTAGGGCT
HsRab15_Q67L_sens	TGGGACACTGCAGGGCTAGAGAGATACCAGACC
HsRab17_Q77L_sens	TGGGACACAGCTGGCCTAGAGAAGTACCACAGC
HsRab18_Q67L_sens	TGGGATACTGCTGGTCTAGAGAGGTTTAGAACA
HsRab19_Q123L_sens	TGGGACACAGCTGGCCTAGAGCGCTTCCGCACC
HsRab20_R59L_sens	TGGGACACCGCAGGGCTAGAGCAGTTCCACGGC
HsRab21_Q78L_sens	TGGGATACGGCAGGTCTAGAGAGATTCCATGCA
HsRab22a_Q64L_sens	TGGGATACAGCTGGACTAGAACGATTTCGTGCC
HsRab23_Q68L_sens	TGGGACACTGCAGGTCTAGAGGAATTTGATGCA
HsRab24_S67L_sens	TGGGACACAGCAGGCCTAGAGCGCTATGAGGCC
HsRab25_L71Q_sens	TGGGACACAGCTGGCCAAGAGCGGTACCGAGCC
HsRab26_Q123L_sens	TGGGACACAGCTGGTCTAGAGCGGTTCCGCAGT
HsRab27a_Q78L_sens	TGGGACACAGCAGGGCTAGAGAGGTTTCGTAGC
HsRab27b_Q78L_sens	TGGGACACTGCGGGACTAGAGCGGTTCCGGAGT
HsRab28_Q72L_sens	TGGGATATAGGAGGGCTAACAATAGGAGGCAAA
HsRab29/Rab7L1_Q67L_	TGGGATATTGCAGGGCTAGAGCGCTTCACCTCT
HsRab30_Q68L_sens	TGGGACACAGCAGGTCTAGAGAGATTTCGGTCC
HsRab31_Q65L_sens	TGGGACACTGCTGGTCTAGAACGGTTTCATTCA
HsRab32_Q85L_sens	TGGGACATCGCGGGGCTAGAGCGATTTGGCAAC
HsRab33a_Q95L_sens	TGGGACACAGCAGGTCTAGAACGTTTCCGCAAA
HsRab33b_Q92L_sens	TGGGACACAGCAGGACTAGAACGATTCAGAAAG
HsRab34_Q111L_sens	TGGGATACCGCTGGGCTAGAGAGGTTCAAATGC
HsRab35_Q67L_sens	TGGGACACAGCGGGGCTAGAGCGCTTCCGCACC
HsRab36_Q182L_sens	TGGGACACAGCTGGGCTAGAGAAGTTCAAGTGC
HsRab37_Q89L_sens	TGGGACACCGCTGGGCTAGAACGGTTCCGAAGC

HsRab38_Q69L_sens	TGGGATATCGCAGGTCTAGAAAGATTTGGAAAC
HsRab39a_Q72L_sens	TGGGACACGGCGGGACTAGAGCGGTTCAGATCA
HsRab39b_Q68L_sens	TGGGATACCGCGGGTCTAGAGAGGTTCAGATCC
HsRab40a_Q73L_sens	TGGGATACGTCGGGGCTAGGAAGATTTTGTACC
HsRab40b_Q73L_sens	TGGGATACTTCAGGCCTAGGAAGATTTTGTACC
HsRab40c_Q73L_sens	TGGGACACGTCGGGCCTAGGCCGGTTCTGCACC
HsRab41_Q89L_sens	TGGGACACAGCTGGCCTAGAGCGCTTTCACAGC
rab42_QL_sens	TGGGACACGGCCGGCCTAGAGCGGTTCCGCACC

HsRab1a_S25N_sens	TCAGGGGTTGGAAAGAACTGCCTTCTTCTTAGG
HsRab1b_S22N_sens	TCAGGCGTGGGCAAGAACTGCCTGCTCCTGCGG
HsRab2a_S20N_sens	ACAGGTGTTGGTAAAAACTGCTTATTGCTACAG
HsRab2b_S20N_sens	ACAGGTGTGGGGAAGAACTGTCTCCTCCTGCAG
HsRab3a_T36N_sens	AGCAGCGTGGGCAAGAACTCCTTCCTCTTCCGC
HsRab3b_T36N_sens	AGCAGTGTTGGCAAGAACTCCTTCCTCTTCCGC
HsRab3c_T44N_sens	AGCAGTGTGGGGAAAAACTCTTTTCTATTCCGT
HsRab3d_T36N_sens	AGCAGTGTGGGCAAGAACTCCTTCCTGTTCCGA
HsRab4a_S22N_sens	GCAGGAACTGGCAAAAACTGCTTACTTCATCAG
HsRab4b_S22N_sens	GCAGGAACTGGCAAAAACTGTCTCCTTCATCAG
HsRab5a_S34N_sens	TCCGCTGTTGGCAAAAACAGCCTAGTGCTTCGT
HsRab5b_S34N_sens	TCTGCAGTGGGAAAGAACAGCCTGGTATTACGT
HsRab5c_S35N_sens	TCTGCGGTAGGCAAAAACAGCCTCGTCCTCCGC
HsRab6a_T27N_sens	CAAAGCGTTGGAAAGAACTCTTTGATCACCAGA
HsRab6b_T27N_sens	CAGAGCGTCGGGAAGAACTCTCTGATTACGAGG
HsRab6c_T27N_sens	CAAAGCGTTGCAAAGAACTCTTTGATCACCAGA
HsRab7a_T22N_sens	TCTGGAGTCGGGAAGAACTCACTCATGAACCAG
HsRab7b_T22N_sens	ATTGGTGTGGGAAAGAACTCCCTCCTTCACCAA
HsRab8a_T22N_sens	TCGGGGGTGGGGAAGAACTGTGTCCTGTTCCGC
HsRab8b_T22N_sens	TCGGGGGTAGGCAAGAACTGCCTCCTGTTCCGC
HsRab9a_S21N_sens	GGTGGAGTTGGGAAGAACTCACTTATGAACAGA
HsRab9b_S21N_sens	GGTGGAGTTGGGAAAAACTCGCTTATGAACCGT
HsRab10_T23N_sens	TCCGGAGTGGGGAAGAACTGCGTCCTTTTTCGT
HsRab11a_S25N_sens	TCTGGTGTTGGAAAGAACAATCTCCTGTCTCGA
HsRab11b_S25N_sens	TCAGGCGTGGGCAAGAACAACCTGCTGTCGCGC
HsRab12_T22N_sens	CTGGGCGCGGGCTCCAACGCGCTGTCGGGCGGC
HsRab13_T22N_sens	TCGGGGGTGGGCAAGAACTGTCTGATCATTCGC
HsRab14_S25N_sens	ATGGGAGTAGGAAAAAACTGCTTGCTTCATCAA
HsRab15_T22N_sens	TCCGGGGTGGGCAAGAACTGCCTGCTGTGCCGC
HsRab17_S33N_sens	GGCTCCGTGGGTAAGAACAGCTTGGCTCTTCGG
HsRab18_S22N_sens	AGTGGGGTGGGCAAGAACAGCCTGCTCTTGAGG
HsRab19_T31N_sens	TCCAATGTGGGGAAGAACTGTGTGGTGCAGCAT
HsRab20_T19N_sens	ATGAACGTGGGGAAGAACTCGCTGCTGCAGCGG
HsRab21_T33N_sens	GGCTGCGTGGGGAAGAACTCGCTGGTGCTGCGC
HsRab22a_S19N_sens	ACAGGTGTAGGTAAAAACAGTATTGTGTGGCGG
HsRab23_S23N_sens	GGAGCAGTTGGAAAAAACAGTATGATTCAGCGA
HsRab24_T21N_sens	GAGTACGTGGGCAAGAACAGCCTGGTGGAGCGC
HsRab25_T26N_sens	TCAGGTGTGGGGAAGAACAATCTACTCTCCCGA
HsRab26_T77N_sens	TCGGGTGTGGGGAAGAACTGTCTGCTGGTGCGA
HsRab27a_T23N_sens	TCTGGTGTAGGGAAGAACAGTGTACTTTACCAA
HsRab27b_T23N_sens	TCAGGGGTGGGGAAGAACACATTTCTTTATAGA
HsRab28_T26N_sens	GGCGCCTCCGGGAAGAACTCCTTAACTACGTGT
HsRab29/Rab7L1_T21N_	GCCGCAGTGGGCAAGAACTCGCTGGTGCAGCGA
HsRab30_T23N_sens	GCTGGTGTGGGGAAGAACTGCCTCGTCCGAAGA
HsRab31_S20N_sens	ACTGGGGTTGGGAAAAACAGCATCGTGTGTCGA
HsRab32_T39N_sens	CTTGGCGTGGGCAAGAACAGCATCATCAAGCGC

HsRab33a_T50N_sens	TCCAACGTGGGCAAGAACTGCCTGACCTTCCGC
HsRab33b_T47N_sens	TCCAATGTGGGCAAGAACTGCCTGACCTACCGC
HsRab34_T66N_sens	CTGTCGGTGGGGAAGAACTGCCTCATTAATAGG
HsRab35_S22N_sens	AGCGGTGTGGGCAAGAACAGTTTACTGTTGCGT
HsRab36_T137N_sens	CTCTACGTGGGGAAGAACAGCCTCATCCACAGG
HsRab37_T43N_sens	ACAGGCGTCGGCAAAAACTGTTTCCTGATCCAA
HsRab38_T23N_sens	CTGGGCGTGGGGAAGAACAGTATCATCAAGCGC
HsRab39a_S22N_sens	TCCACCGTGGGCAAGAACTGCCTCCTGCACCGC
HsRab39b_S22N_sens	TCCACAGTGGGCAAGAACTGCCTGATCCGCCGC
HsRab40a_S28N_sens	AGGGACGTAGGCAAGAACGAGATCCTGGAGAGC
HsRab40b_G28N_sens	AGCGACGTGGGCAAGAACGAGATCCTGGCGAGC
HsRab40c_G28N_sens	AGCGACGTGGGCAAGAACGAGATCCTGGAGAGC
HsRab41_T44N_sens	GAGCAGAGCGGGAAGAACTCCATCATCAGCCGC
rab42_N_sens	GCAAGCGTGGGCAAGAACTGCGTGGTGCAGCGC

Supplemental Table 3

siRNA	Sequence
siLuc	5'- CGUACGCGGAAUACUUCGA -3'
siMyoVa3	5'- CGAAACAACUGGAACUCGA – 3'
siMyoVa4	5'- CAAUAUGAGAACUUAUCUU – 3'
siRab3D	5'- GUUCAAACUGCUACUGAUA -3'
siRab6A/A'	5'- GACAUCUUUGAUCACCAGA -3'
siRab8A	5'- CAGCUUUUUCCGAUGUGUU -3'
siRab10	5'- GAAUAGACUUCAAGAUCAA -3'
siRab11A/B	5'- GACGACGAGUACGACUACC -3'
siRab14	5'- CAACUACUCUUACAUCUUU – 3'