

**Table S2. SUPPLEMENTARY KEY RESOURCE TABLE**

| Reagent or resource                                      | Source                       | Identifier               |
|--|------------------------------|--------------------------|
| <b>Antibodies</b>  |                              |                          |
| Acetylated Tubulin                                       | Sigma Aldrich                | T6793; RRID: AB_477585   |
| Gamma-tubulin  | Sigma Aldrich                | T5192; RRID: AB_261690   |
| Anti-GFP (Chicken)                                       | GeneTex                      | GTX13970; AB_371416      |
| Anti-GFP (Rabbit)  | Molecular Probes             | A-11122; AB_221569       |
| Anti-Flag (Mouse)  | Sigma-Aldrich                | F3165-.2MG               |
| Anti-Flag (Rabbit)                                       | Sigma                        | F7425                    |
| Myosin 5a  | Novus Biologicals            | NBP1-92156               |
| Alexa Fluor Anti-Rabbit<br>488                           | Life Technologies            | A21206; RRID: AB_2535792 |
| Alexa Fluor Anti-Rabbit<br>568                           | Life Technologies            | A10042; RRID: AB_2534017 |
| Alexa Fluor Anti-Rabbit<br>647                           | Life Technologies            | A31573; RRID: AB_2536183 |
| DyLight 405-AffiniPure<br>Donkey Anti-Mouse IgG<br>(H+L) | Jackson<br>ImmunoResearch    | 715-475-150              |
| Alexa Fluor Anti-Mouse<br>488                            | Life Technologies            | A21202; RRID: AB_141607  |
| Alexa Fluor Anti-Mouse<br>568                            | Life Technologies            | A10037; RRID: AB_2534013 |
| Alexa Fluor Anti-Mouse<br>647                            | Life Technologies            | A31571; RRID: AB_162542  |
| <b>Chemicals, Peptides, and Recombinant Proteins</b>     |                              |                          |
| DAPI   | Sigma Aldrich                | D9542-10mg               |
| Alexa Fluor 647<br>Phalloidin                            | Cell Signaling<br>Technology | 8940S                    |
| Agarose  | Thermo Fischer               | 16520100                 |

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|--|---------------------|---------------|
| BSA  | Fisher Scientific   | BP1600-100    |
| BIO BASIC Maxi Prep Kit                                    | BIO BASIC           | 9K-0060023    |
| Dimethylsulphoxide   | Fisher Scientific   | BP231-100     |
| Paraformaldehyde   | Fisher Scientific   | O4042-500     |
| Phosphate Buffered Saline                                  | Fisher Scientific   | 10010023      |
| Life Technologies Prolong Diamond Antifade mount with DAPI | Fisher Scientific   | P36971        |
| 35 mm Dish  No.1.5. coverslip  20 mm Glass Diameter        | MatTek Corporation  | P35G-1.5-20-C |
| Molecular Probes Prolong Gold Antifade mount               | Fisher Scientific   | P36934        |
| Triton X-100   | Fisher Scientific   | BP151500      |
| Tween 20   | ThermoFischer       | BP337500      |
| Sodium Chloride  | Fisher Scientific   | BP358         |
| NEBuilder HiFi DNA assembly Cloning Kit                    | New England BioLabs | E5520S        |

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| mMESSAGE<br>mMACHINETMSP6                         | Invitrogen                              | AM1340   |
| OneTaq One-Step RT-PCR Kit                        | New England Biolabs                     | E5315S   |
| <b>Experimental models, organisms and strains</b> |   |  |
| Zebrafish   | Zebrafish International Resource Center | AB-Wildtype  |
| Zebrafish   | Zebrafish International Resource Center | Tg (Sox17:DsRed)   |
| Zebrafish   | (Dasgupta and Amack, 2016)              | Tg (sox17:GFP-CAAX)sny101                                  |
| Zebrafish   | (Navis et al., 2013)                    | TgBAC(cftr-GFP)  |
| Zebrafish   | (Levic et al., 2020)                    | TgKleGFP-Rab11a  |
| Zebrafish   | Zebrafish International Resource Center | Tg(sox17:GFP)  |
| Zebrafish   | Megason Lab                             | $\beta$ actin:EMTB-3xGFP; cmlc2:GFP                        |
| <b>mRNA and Morpholinos</b>                       |   |  |
| CRY2  | (Rathbun et al., 2020)                  | Plasmid: pCS2-CRY2; Addgene Plasmid #140572                |
| CIB1-mCherry-Rab11a                               | (Rathbun et al., 2020)                  | Plasmid: pCS2-CIB1-mCherry-Rab11a; Addgene Plasmid #140573 |
| CIB1-mCherry-Rab8a                                | This paper                              | Plasmid: pCS2-CIB1-mCherry-Rab8a                           |
| CIB1-mRuby-Rab35                                  | This paper                              | Plasmid: pCS2-CIB1-mRuby-Rab35                             |

|                                |  |   |
|--------------------------------|--|---|
| FLAG-Rab8                      | This paper   | Plasmid: pCS2-FLAG-Rab8   |
| FLAG-Rab11                     | This paper   | Plasmid: pCS2-FLAG-Rab11  |
| mRuby-Rab8a                    | This paper   | Plasmid: pCS2-mRuby-Rab8a   |
| mCherry-Rab11                  | This paper   | Plasmid: pCS2- mCherry-Ra11   |
| mRuby-Rab35                    | This paper   | Plasmid: pCS2- mRuby-Rab35  |
| Lifect-mRuby                   | This paper   | Plasmid: pCS2-Lifect-mRuby  |
| Arl13b-mCardinal               | This paper   | Plasmid: pCS2- Arl13b-mCardinal                                     |
| <b>Morpholinos</b>             |  |   |
| Control MO                     | vivo standard control morpholinos                                | Gene Tools  |
| Rab8 MO                        | (Omori <i>et al.</i> , 2008; Lu <i>et al.</i> , 2015)            | GAAGACATAAATACCTATCGTCGAG   |
| Rab11 MO                       | (Westlake <i>et al.</i> , 2011)                                  | GTATTCGTCTCGTGTCCCAT  |
| Rab35 MO                       | (Kuhns <i>et al.</i> , 2019)                                     | TGCAGCTTCACGCCTCTCTCCAGCA   |
| <b>Software and algorithms</b> |  |   |
| ImageJ/FIJI                    | NIH and Laboratory for Optical and Computational Instrumentation | <a href="https://imagej.net/Fiji">https://imagej.net/Fiji</a>       |
| IMARIS, Bitplane               | Oxford Instruments   | <a href="https://imaris.oxinst.com/">https://imaris.oxinst.com/</a> |

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|----------------|-----------------------|---|
| PRISM9         | GraphPad              | <a href="https://www.graphpad.com/scientific-software/prism/">https://www.graphpad.com/scientific-software/prism/</a>   |
| LAS-X Software | Leica<br>Microsystems | <a href="https://www.leica-microsystems.com/products/microscope-software/p/leica-las-x-ls/">https://www.leica-microsystems.com/products/microscope-software/p/leica-las-x-ls/</a> |
| VisiView       | Visitron              | <a href="https://www.visitron.de/products/visiviewr-software.html">https://www.visitron.de/products/visiviewr-software.html</a>   |