

Table S2. Strains used in this study	
Strain name	Genotype
N2	Wild type
TV392	<i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP] X</i>
FDU937	<i>cima-1(wy84) IV; wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP] X</i>
FDU2215	<i>shcEx1126[Pttx-3::syd-1::GFP;Pttx-3::rab-3::mCherry;Punc-122::RFP]</i>
FDU2216	<i>cima-1(wy84) IV;shcEx1127[Pttx-3::syd-1::GFP;Pttx-3::rab-3::mCherry;Punc-122::RFP]</i>
FDU2217	<i>cima-1(wy84) IV;mig-17(ols226) V;shcEx1128[Pttx-3::syd-1::GFP;Pttx-3::rab-3::mCherry;Punc-122::RFP]</i>
FDU1140	<i>shcEx776 [Phlh-17::mCherry; Pttx-3::GFP::rab-3]</i>
FDU1784	<i>cima-1(wy84) IV; shcEx777 [Phlh-17::mCherry; Pttx-3::GFP::rab-3]</i>
FDU1785	<i>mig-17(ola226) V; shcEx778 [Phlh-17::mCherry; Pttx-3::GFP::rab-3]</i>
FDU1143	<i>cima-1(wy84) IV; mig-17(ola226) V; shcEx780 [Phlh-17::mCherry; Pttx-3::GFP::rab-3]</i>
FDU2095	<i>cima-1(wy84) IV; mig-17(ola226) V; wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP] X</i>
FDU2333	<i>cima-1(wy84) IV; mig-17(ola226) V; wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP] X; shcEx1146 [Pmig-17::mig-17 genomics; Phlh-17::mCherry]</i>
FDU2334	<i>cima-1(wy84) IV; mig-17(ola226) V; wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP] X; shcEx1147 [Pmig-17::mig-17 genomics; Phlh-17::mCherry]</i>
FDU882	<i>cima-1(wy84) IV; mig-17(k113) V; wyls45 [Pttx-3::GFP::rab-3; Punc-122::RFP] X</i>
FDU2315	<i>cima-1(wy84) IV; mig-17(k174) V; wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP] X</i>
FDU2219	<i>shcEx1129[Pmig-17::mig-17::SL2::GFP; Pdpi-4::mCherry]</i>
FDU2220	<i>shcEx1130[Pmig-17::mig-17::SL2::GFP; Pmyo-3::mCherry]</i>
FDU2318	<i>shcEx1131[Pmig-17::mig-17::SL2::GFP; Phlh-17::mCherry]</i>
FDU2462	<i>shcEx1410[Pmig-17::mig-17::SL2::GFP; Prab-3::mCherry]</i>
FDU2214	<i>cima-1(wy84) IV; mig-17(shc8) V; wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP] X</i>
FDU2596	<i>cima-1(wy84) IV; mig-17(ola226) V; wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP] X; shcEx1414 [Pmig-17::mig-17(E303A); Phlh-17::mCherry]</i>
FDU2597	<i>cima-1(wy84) IV; mig-17(ola226) V; wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP] X; shcEx 1415 [Pmig-17::mig-17(E303A); Phlh-17::mCherry]</i>
FDU3202	<i>cima-1(wy84) IV; mig-17(ola226) V; wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP] X; shcEx1682[Prab-3::mig-17; Phlh-17::mCherry]</i>
FDU3203	<i>cima-1(wy84) IV; mig-17(ola226) V; wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP] X; shcEx1683[Prab-3::mig-17; Phlh-17::mCherry]</i>
FDU1056	<i>mig-17(shc19) V</i>
FDU1778	<i>mig-17(shc19) V; shcEx845[Phlh-17::mCherry]</i>
FDU2332	<i>mig-17(shc19) V; shcEx1145[Pdpi-4::mCherry]</i>
FDU1896	<i>mig-17(shc19) V; shcEx1402[ Pmyo-3::mCherry]</i>
FDU1891	<i>mig-17(shc19) V;shcEx1403[Prab-3::mCherry]</i>
FDU1518	<i>cima-1(wy84) IV; emb-9(xd51) III; wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP] X</i>

FDU192	<i>cima-1(wy84)</i> IV; <i>emb-9(tk75)</i> III; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X
FDU2945	<i>cima-1(wy84)</i> IV; <i>emb-9(b189)</i> IV; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X
DCR1475	<i>cima-1(wy84)</i> IV; <i>unc-52(e1421)</i> II; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X
FDU38	<i>cima-1(wy84)</i> IV; <i>fbl-1(k201)</i> IV; <i>wyIs45; [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X
FDU45	<i>cima-1(wy84)</i> IV; <i>mig-17(ola226)</i> V; <i>fbl-1(k201)</i> IV; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X
FDU2598	<i>mig-17(shc19)</i> V; <i>qyIs46[unc119;emb-9::mCherry]</i> X
NK364	<i>unc-119(ed4)</i> III; <i>qyIs46[unc119;emb-9::mCherry]</i> X
FDU2593	<i>cima-1(wy84)</i> IV; <i>qyIs46[unc119;emb-9::mCherry]</i> X
FDU2594	<i>mig-17(ola226)</i> V; <i>qyIs46[unc119;emb-9::mCherry]</i> X
FDU2595	<i>cima-1(wy84)</i> IV; <i>mig-17(ola226)</i> V; <i>qyIs46[unc119;emb-9::mCherry]</i> X
FDU2314	<i>mig-17(k174)</i> V; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X
FDU883	<i>mig-17(k113)</i> V; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X
FDU2583	<i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X; <i>shcEx1252 [Pmig-17::mig-17 genomics; Phlh-17::mCherry]</i>
FDU2584	<i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X; <i>shcEx1253 [Pmig-17::mig-17 genomics; Phlh-17::mCherry]</i>
FDU3143	<i>fbl-1(k201)</i> IV; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X; <i>shcEx1686 [Phlh-17::mCherry]</i>
FDU3144	<i>fbl-1(k201)</i> IV; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X; <i>shcEx1687 [Phlh-17::mCherry]</i>
FDU3192	<i>fbl-1(k201)</i> IV; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X; <i>shcEx1691 [Phlh-17::mCherry]</i>
FDU3145	<i>let-2(b246)</i> X; <i>shcEx1688 [Phlh-17::mCherry]</i>
FDU3146	<i>let-2(b246)</i> X; <i>shcEx1689 [Phlh-17::mCherry]</i>
FDU3147	<i>let-2(b246)</i> X; <i>shcEx1690 [Phlh-17::mCherry]</i>
FDU3193	<i>unc-52(e1421)</i> II; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X; <i>shcEx1692 [Phlh-17::mCherry]</i>
FDU3194	<i>unc-52(e1421)</i> II; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X; <i>shcEx1693 [Phlh-17::mCherry]</i>
FDU1519	<i>emb-9(xd51)</i> III; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X
FDU2995	<i>emb-9(b189)</i> IV; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X
DCR4032	<i>fbl-1(k201)</i> IV; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X
DCR1624	<i>unc-52(gk3)</i> II; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X
FDU3101	<i>unc-52(e1421)</i> II; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X
FDU2320	<i>cima-1(wy84)</i> IV; <i>mig-17(ola226)</i> V; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X; <i>shcEx1133 [Pmyo-3::mig-17; Phlh-17::mCherry]</i>
FDU2321	<i>cima-1(wy84)</i> IV; <i>mig-17(ola226)</i> V; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X; <i>shcEx1134 [Pmyo-3::mig-17; Phlh-17::mCherry]</i>
FDU2322	<i>cima-1(wy84)</i> IV; <i>mig-17(ola226)</i> V; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X; <i>shcEx1135 [Pmyo-3::mig-17; Phlh-17::mCherry]</i>
FDU2326	<i>cima-1(wy84)</i> IV; <i>mig-17(ola226)</i> V; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X; <i>shcEx1139 [Phlh-17::mig-17; Phlh-17::mCherry]</i>
FDU2327	<i>cima-1(wy84)</i> IV; <i>mig-17(ola226)</i> V; <i>wyIs45 [Pttx-3::GFP::rab-3; Punc-122::RFP]</i> X; <i>shcEx1140 [Phlh-17::mig-17; Phlh-17::mCherry]</i>

FDU2329	<i>cima-1(wy84)</i> IV; <i>mig-17(ola226)</i> V; <i>wyIs45</i> [ <i>Pttx-3::GFP::rab-3</i> ; <i>Punc-122::RFP</i> ] X; <i>shcEx1142</i> [ <i>Pdpy-7::mig-17</i> ; <i>Phlh-17::mCherry</i> ]
FDU2330	<i>cima-1(wy84)</i> IV; <i>mig-17(ola226)</i> V; <i>wyIs45</i> [ <i>Pttx-3::GFP::rab-3</i> ; <i>Punc-122::RFP</i> ] X; <i>shcEx1143</i> [ <i>Pdpy-7::mig-17</i> ; <i>Phlh-17::mCherry</i> ]
FDU3195	<i>cima-1(wy84)</i> IV; <i>mig-17(ola226)</i> V; <i>wyIs45</i> [ <i>Pttx-3::GFP::rab-3</i> ; <i>Punc-122::RFP</i> ] X; <i>shcEx1675</i> [ <i>Pttx-3::mig-17</i> ; <i>Phlh-17::mCherry</i> ]
FDU3196	<i>cima-1(wy84)</i> IV; <i>mig-17(ola226)</i> V; <i>wyIs45</i> [ <i>Pttx-3::GFP::rab-3</i> ; <i>Punc-122::RFP</i> ] X; <i>shcEx1676</i> [ <i>Plim-4::mig-17</i> ; <i>Phlh-17::mCherry</i> ]
FDU3197	<i>cima-1(wy84)</i> IV; <i>mig-17(ola226)</i> V; <i>wyIs45</i> [ <i>Pttx-3::GFP::rab-3</i> ; <i>Punc-122::RFP</i> ] X; <i>shcEx1677</i> [ <i>Plim-4::mig-17</i> ; <i>Phlh-17::mCherry</i> ]
FDU3198	<i>cima-1(wy84)</i> IV; <i>mig-17(ola226)</i> V; <i>wyIs45</i> [ <i>Pttx-3::GFP::rab-3</i> ; <i>Punc-122::RFP</i> ] X; <i>shcEx1678</i> [ <i>Plim-4::mig-17</i> ; <i>Phlh-17::mCherry</i> ]
FDU3199	<i>cima-1(wy84)</i> IV; <i>mig-17(ola226)</i> V; <i>wyIs45</i> [ <i>Pttx-3::GFP::rab-3</i> ; <i>Punc-122::RFP</i> ] X; <i>shcEx1679</i> [ <i>Plim-4::mig-17</i> ; <i>Phlh-17::mCherry</i> ]
FDU3204	<i>cima-1(wy84)</i> IV; <i>mig-17(ola226)</i> V; <i>wyIs45</i> [ <i>Pttx-3::GFP::rab-3</i> ; <i>Punc-122::RFP</i> ] X; <i>shcEx1684</i> [ <i>Pttx-3::mig-17</i> ; <i>Phlh-17::mCherry</i> ]
FDU3205	<i>cima-1(wy84)</i> IV; <i>mig-17(ola226)</i> V; <i>wyIs45</i> [ <i>Pttx-3::GFP::rab-3</i> ; <i>Punc-122::RFP</i> ] X; <i>shcEx1685</i> [ <i>Pttx-3::mig-17</i> ; <i>Phlh-17::mCherry</i> ]
FDU3207	<i>unc-119(ed4)</i> III; <i>qyIs46</i> [ <i>unc119;emb-9::mCherry</i> ] X; <i>shcEx1695</i> [ <i>Pmyo-3::GFP</i> ]
FDU3208	<i>unc-119(ed4)</i> III; <i>qyIs46</i> [ <i>unc119;emb-9::mCherry</i> ] X; <i>shcEx1696</i> [ <i>Pmyo-3::GFP</i> ]
FDU3209	<i>unc-119(ed4)</i> III; <i>qyIs46</i> [ <i>unc119;emb-9::mCherry</i> ] X; <i>shcEx1697</i> [ <i>Pttx-3::GFP</i> ]
FDU3210	<i>unc-119(ed4)</i> III; <i>qyIs46</i> [ <i>unc119;emb-9::mCherry</i> ] X; <i>shcEx1698</i> [ <i>Pttx-3::GFP</i> ]
FDU3211	<i>unc-119(ed4)</i> III; <i>qyIs46</i> [ <i>unc119;emb-9::mCherry</i> ] X; <i>shcEx1699</i> [ <i>Phlh-17::GFP</i> ]