

**Table S2** Primer sets for long-PCR synthesis of probes for Southern blotting of transferred *Wolbachia* genes, and hybridization signals with the probes.

| Forward primer name | Reverse primer name | Forward primer position | Reverse primer position | Probe length (bp) | Result of Southern blotting <sup>1</sup> | EcoRI   |                   | BamHI   |                    | HindIII |                              |
|---------------------|---------------------|-------------------------|-------------------------|-------------------|------------------------------------------|---------|-------------------|---------|--------------------|---------|------------------------------|
|                     |                     |                         |                         |                   |                                          | Signals | Band size (kb)    | Signals | Band size (kb)     | Signals | Band size (kb)               |
| dnaAF               | virD4R              | 698                     | 9285                    | 8588              | X                                        |         |                   |         |                    |         |                              |
| virD4F              | fusAR               | 8982                    | 14731                   | 5750              | X                                        |         |                   |         |                    |         |                              |
| fusAF               | rpoCR               | 14338                   | 25693                   | 11356             | X                                        |         |                   |         |                    |         |                              |
| rpoCF               | serSR               | 25333                   | 32675                   | 7343              | X                                        |         |                   |         |                    |         |                              |
| serSF               | dnaJF               | 32372                   | 43810                   | 11439             | X                                        |         |                   |         |                    |         |                              |
| dnaJR               | leuSR <sup>2</sup>  | 43489                   | 58031                   | 14543             | X                                        |         |                   |         |                    |         |                              |
| leuSF <sup>2</sup>  | rplMF               | 57800                   | 64487                   | 6688              | X                                        |         |                   |         |                    |         |                              |
| rplMR               | secDF               | 64277                   | 79606                   | 15330             | X                                        |         |                   |         |                    |         |                              |
| secDR               | ddlAR               | 79213                   | 88160                   | 8948              | X                                        |         |                   |         |                    |         |                              |
| ddlAF               | putAF               | 87572                   | 96592                   | 9021              | O                                        | 1       | 6.3               | 1       | 12.7               | 2       | 1.5,0.9                      |
| putAR               | gyrBR               | 96229                   | 104312                  | 8084              | X                                        |         |                   |         |                    |         |                              |
| gyrBF               | ftsKF               | 103802                  | 112930                  | 9129              | X                                        |         |                   |         |                    |         |                              |
| ftsKR               | metKR               | 112655                  | 125566                  | 12912             | X                                        |         |                   |         |                    |         |                              |
| metKF               | gatBR               | 125248                  | 132105                  | 6858              | X                                        |         |                   |         |                    |         |                              |
| gatBF               | glyQF               | 131697                  | 145244                  | 13548             | X                                        |         |                   |         |                    |         |                              |
| glyQR               | mapR                | 144920                  | 155312                  | 10393             | X                                        |         |                   |         |                    |         |                              |
| mapF                | pthR                | 154745                  | 159859                  | 5115              | O                                        | 1       | 5.0               | 1       | 19.4               | 2       | 12.1,8.1                     |
| pthF                | mrpF                | 159577                  | 164411                  | 4835              | X                                        |         |                   |         |                    |         |                              |
| mrpR                | guaAF               | 164084                  | 177139                  | 13056             | O                                        | 2       | 6.0,5.4           | 1       | 10.0               | 4       | 3.5,2.2,1.4,0.8              |
| guaAR               | nrdAF               | 176860                  | 180751                  | 3892              | X                                        |         |                   |         |                    |         |                              |
| nrdAR               | atpDR               | 179869                  | 188229                  | 8361              | O                                        | 4       | 20.1,13.0,6.6,2.9 | 4       | 25.7,14.4,6.3,2.4  | 2       | 25.7,13.0                    |
| atpDF               | nrdBF               | 187752                  | 195525                  | 7774              | O                                        | 4       | 26.0,18.8,9.9,5.1 | 4       | 28.0,23.0,11.6,8.2 | 7       | 11.0,2.7,2.2,1.6,1.3,1.0,0.6 |
| nrdBR               | clpBF               | 195291                  | 208218                  | 12928             | X                                        |         |                   |         |                    |         |                              |
| clpBR               | pyrCF               | 207939                  | 216161                  | 8223              | X                                        |         |                   |         |                    |         |                              |
| pyrCR               | yidCR               | 215852                  | 224880                  | 9029              | X                                        |         |                   |         |                    |         |                              |
| yidCF               | prfAR               | 224463                  | 232151                  | 7689              | X                                        |         |                   |         |                    |         |                              |
| coxBF               | gloELF              | 280086                  | 288004                  | 7919              | X                                        |         |                   |         |                    |         |                              |
| gloELR              | recJF               | 287635                  | 292463                  | 4829              | X                                        |         |                   |         |                    |         |                              |
| recJR               | lonF                | 292157                  | 297922                  | 5766              | X                                        |         |                   |         |                    |         |                              |

|                     |                    |        |        |       |   |   |             |   |          |   |             |
|---------------------|--------------------|--------|--------|-------|---|---|-------------|---|----------|---|-------------|
| lonR                | lpdA2F             | 297679 | 307118 | 9440  | X |   |             |   |          |   |             |
| lpdA2R              | adeKF              | 306779 | 321055 | 14277 | X |   |             |   |          |   |             |
| adeKR               | dnaGF              | 320698 | 330601 | 9904  | X |   |             |   |          |   |             |
| dnaGR               | dnaBF              | 330337 | 337613 | 7277  | X |   |             |   |          |   |             |
| dnaBR               | recBF              | 337361 | 344651 | 7291  | X |   |             |   |          |   |             |
| recBR               | prfBF              | 344291 | 353472 | 9182  | X |   |             |   |          |   |             |
| prfBR               | tkfF               | 353145 | 371174 | 18030 | X |   |             |   |          |   |             |
| tkfR                | ftsWR <sup>2</sup> | 370823 | 376124 | 5302  | X |   |             |   |          |   |             |
| ftsWF <sup>2</sup>  | argSR              | 375579 | 383933 | 8355  | X |   |             |   |          |   |             |
| argSF               | aspSR              | 383378 | 391566 | 8189  | X |   |             |   |          |   |             |
| aspSF               | ileSR              | 391263 | 401537 | 10275 | X |   |             |   |          |   |             |
| ileSF               | atpBR              | 401252 | 409169 | 7918  | X |   |             |   |          |   |             |
| atpBF               | pccAF              | 408830 | 414844 | 6014  | O | 2 | 16.6,6.8    | 1 | 19.9     | 2 | 6.3,2.4     |
| pccAR               | ugtpF <sup>2</sup> | 414373 | 427161 | 12789 | X |   |             |   |          |   |             |
| ugtpR <sup>2</sup>  | pcnBR              | 426735 | 428990 | 2256  | X |   |             |   |          |   |             |
| pcnBF               | tatCR              | 428420 | 434961 | 6542  | X |   |             |   |          |   |             |
| tatCF               | valSF              | 434589 | 447449 | 12861 | X |   |             |   |          |   |             |
| valSR               | acoBR              | 447170 | 456831 | 9662  | O | 1 | 3.5         | 2 | 13.6,9.0 | 1 | 5.4         |
| acoBF               | fumCF              | 456534 | 473423 | 16890 | X |   |             |   |          |   |             |
| maeBF               | enoF               | 469692 | 475284 | 5593  | X |   |             |   |          |   |             |
| enoR                | rlpAR              | 475005 | 478199 | 3195  | X |   |             |   |          |   |             |
| rlpAF               | gatAR              | 477881 | 485596 | 7716  | O | 1 | 10.2        | 1 | 9.8      | 1 | 2.1         |
| gatAF               | mutLF              | 485203 | 491664 | 6462  | X |   |             |   |          |   |             |
| mutLR               | tp1F               | 491301 | 508699 | 17399 | X |   |             |   |          |   |             |
| tp1R                | glmSR <sup>2</sup> | 508439 | 520764 | 12326 | O | 1 | 5.7         | 1 | 8.6      | 0 | X           |
| glmSF <sup>2</sup>  | secAR              | 520356 | 535388 | 15033 | X |   |             |   |          |   |             |
| secAF               | corBF              | 534828 | 543560 | 8733  | X |   |             |   |          |   |             |
| corBR               | nuoDR              | 543170 | 546916 | 3747  | X |   |             |   |          |   |             |
| abcT3F <sup>2</sup> | rhaTF              | 600615 | 606638 | 6024  | X |   |             |   |          |   |             |
| pinR1R <sup>2</sup> | rspEF              | 627463 | 637413 | 9951  | X |   |             |   |          |   |             |
| rspER               | rpoAF              | 636876 | 645657 | 8782  | X |   |             |   |          |   |             |
| rpoAR               | rplRF              | 645267 | 650571 | 5305  | X |   |             |   |          |   |             |
| rplRR               | rpsCF              | 650143 | 654358 | 4216  | X |   |             |   |          |   |             |
| rpsCR               | ppdKF              | 654037 | 667009 | 12973 | X |   |             |   |          |   |             |
| ppdKR               | exoCF              | 666580 | 672316 | 5737  | X |   |             |   |          |   |             |
| exoCR               | dgtPR              | 672049 | 683877 | 11829 | X |   |             |   |          |   |             |
| dgtPF               | dapDR              | 683448 | 689095 | 5648  | X |   |             |   |          |   |             |
| dapDF               | uorf2F             | 688825 | 692645 | 3821  | X |   |             |   |          |   |             |
| uorf2R              | ftsZR              | 692303 | 700015 | 7713  | O | 3 | 4.7,2.9,2.6 | 1 | 9.5      | 3 | 2.8,1.6,1.3 |

|                    |                    |         |         |       |   |   |                       |   |                 |   |                     |
|--------------------|--------------------|---------|---------|-------|---|---|-----------------------|---|-----------------|---|---------------------|
| ftsZF              | mppF <sup>2</sup>  | 699288  | 712885  | 13598 | O | 4 | 7.1,4.8,2.9,2.3       | 1 | 14.3            | 4 | 7.9,6.1,3.4,1.7     |
| mppR <sup>2</sup>  | sodBF              | 712612  | 713571  | 960   | X |   |                       |   |                 |   |                     |
| sodBR              | lpdAR              | 713277  | 725352  | 12076 | X |   |                       |   |                 |   |                     |
| lpdAF              | trxB2F             | 725157  | 729909  | 4753  | X |   |                       |   |                 |   |                     |
| trxB2R             | ribFR              | 729318  | 733575  | 4258  | O | 1 | 2.4                   | 1 | 7.9             | 1 | 2.8                 |
| ribFF              | aprDR              | 733155  | 743457  | 10303 | O | 2 | 10.7,2.6              | 1 | 6.2             | 2 | 4.5,3.5             |
| aprDF              | dnaER              | 743127  | 754692  | 11566 | X |   |                       |   |                 |   |                     |
| dnaEF              | icdF               | 754279  | 766114  | 11836 | X |   |                       |   |                 |   |                     |
| icdR               | ispBR              | 765664  | 773456  | 7793  | O | 2 | 14.2,5.9              | 2 | 11.9,2.8        | 4 | 4.3,2.3,1.7,1.2     |
| ispBF              | trpSR              | 773276  | 774902  | 1627  | O | 2 | 12.0,4.0              | 1 | 6.0             | 1 | 3.5                 |
| trpSF              | recGR              | 774665  | 790501  | 15837 | O | 1 | 15.5                  | 1 | 10.3            | 1 | 4.4                 |
| recGF              | htrAR <sup>2</sup> | 790099  | 799152  | 9054  | X |   |                       |   |                 |   |                     |
| htrAF <sup>2</sup> | uvrBF              | 798858  | 807401  | 8544  | O | 1 | 5.9                   | 1 | 2.6             | 1 | 2.2                 |
| uvrBR              | murDR              | 807035  | 813908  | 6874  | O | 4 | 14.8,8.9,4.3,2.6      | 4 | 8.9,4.5,3.4,1.3 | 5 | 3.9,2.9,1.8,1.3,1.1 |
| murDF              | virB4F             | 813596  | 829376  | 15781 | X |   |                       |   |                 |   |                     |
| virB4R             | alaSF              | 829037  | 835698  | 6662  | X |   |                       |   |                 |   |                     |
| alaSR              | fabDF              | 835413  | 843036  | 7624  | X |   |                       |   |                 |   |                     |
| fabDR              | radAR              | 842316  | 856052  | 13737 | O | 1 | 10.8                  | 2 | 7.0,5.6         | 1 | 6.1                 |
| radAF              | ftsYF              | 855734  | 856966  | 1233  | O | 2 | 9.8,6.6               | 2 | 8.6,6.0         | 2 | 6.0,2.3             |
| ftsYR              | pnpR               | 856660  | 871631  | 14972 | O | 5 | 27.9,12.3,9.9,5.1,2.6 | 3 | 31.1,13.0,5.7   | 5 | 4.2,2.7,2.2,2.1,1.6 |
| pnpF               | uvrAR              | 871271  | 883020  | 11750 | X |   |                       |   |                 |   |                     |
| uvrAF              | dnaKF              | 882648  | 892514  | 9867  | X |   |                       |   |                 |   |                     |
| dnaKR              | aarFR              | 891812  | 901012  | 9201  | X |   |                       |   |                 |   |                     |
| aarFF              | asdF               | 900595  | 914078  | 13484 | O | 3 | 9.5,5.1,2.6           | 3 | 12.1,3.5,1.9    | 3 | 4.8,1.6,1.2         |
| asdR               | uvrDF              | 913655  | 923553  | 9899  | X |   |                       |   |                 |   |                     |
| uvrDR              | infCF              | 923184  | 937130  | 13947 | X |   |                       |   |                 |   |                     |
| nuoFF              | fabHF              | 936249  | 944687  | 8439  | O | 1 | 6.1                   | 1 | 11.1            | 1 | 4.1                 |
| fabHR              | tgt2AR             | 944342  | 948308  | 3967  | O | 3 | 5.1,2.5,2.1           | 1 | 14.2            | 2 | 3.6,1.2             |
| tgt2AF             | spl1F              | 947963  | 954569  | 6607  | O | 2 | 6.1,2.0               | 1 | 10.4            | 1 | 4.7                 |
| spl1R              | xthR               | 954041  | 959355  | 5315  | X |   |                       |   |                 |   |                     |
| xthF               | gidAF              | 958953  | 970287  | 11335 | X |   |                       |   |                 |   |                     |
| gidAR              | lipBR              | 969870  | 977592  | 7723  | X |   |                       |   |                 |   |                     |
| lipBF              | pasF               | 977268  | 986426  | 9159  | X |   |                       |   |                 |   |                     |
| pasR               | aatAR              | 985976  | 990567  | 4592  | X |   |                       |   |                 |   |                     |
| aatAF              | glyAR              | 990228  | 996370  | 6143  | X |   |                       |   |                 |   |                     |
| glyAF              | czcDR              | 996187  | 1004709 | 8523  | X |   |                       |   |                 |   |                     |
| czcDF              | recAF              | 1004337 | 1012643 | 8307  | X |   |                       |   |                 |   |                     |
| recAR              | folCF              | 1012376 | 1015556 | 3181  | O | 1 | 12.4                  | 1 | 5.7             | 1 | 1.9                 |
| folCR              | dsbaR              | 1015172 | 1017836 | 2665  | O | 1 | 8.9                   | 2 | 5.1,2.8         | 1 | 1.6                 |

|                    |                    |         |         |       |   |   |                             |   |                       |   |                             |
|--------------------|--------------------|---------|---------|-------|---|---|-----------------------------|---|-----------------------|---|-----------------------------|
| dsbaF              | gstF               | 1017578 | 1019826 | 2249  | O | 2 | 9.2,3.0                     | 1 | 2.8                   | 1 | 0.8                         |
| gstR               | rpoHR              | 1019593 | 1024396 | 4804  | O | 1 | 10.5                        | 1 | 4.7                   | 2 | 5.6,1.1                     |
| rpoHF              | uorf1F             | 1024183 | 1041799 | 17617 | X |   |                             |   |                       |   |                             |
| uorf1R             | omp1F <sup>2</sup> | 1041319 | 1044770 | 3452  | X |   |                             |   |                       |   | 4.0                         |
| omp1R <sup>2</sup> | rpsAF              | 1044122 | 1048711 | 4590  | X |   |                             |   |                       |   |                             |
| rpsAR              | cog1160            | 1048495 | 1054677 | 6183  | O | 1 | 6.7                         | 0 | X                     | 2 | 1.4,0.9                     |
| cog1160F           | ruvBF              | 1054236 | 1066901 | 12666 | O | 3 | 7.3,2.6,2.0                 | 4 | 21.3,16.1,6.8,2.3     | 1 | 6.4                         |
| ruvBR              | tyrSF              | 1066691 | 1070883 | 4193  | O | 1 | 9.1                         | 1 | 2.5                   | 2 | 3.7,1.5                     |
| tyrSR              | mdhF               | 1070505 | 1074542 | 4038  | O | 1 | 8.5                         | 2 | 12.1,2.4              | 2 | 5.5,4.0                     |
| mdhR               | topAR              | 1074164 | 1084555 | 10392 | O | 1 | 9.6                         | 2 | 17.6,4.1              | 2 | 3.7,1.2                     |
| topAF              | perMR              | 1084255 | 1096712 | 12458 | X |   |                             |   |                       |   |                             |
| perMF              | pccBR              | 1096445 | 1104551 | 8107  | O | 1 | 5.8                         | 1 | 8.0                   | 2 | 1.6,1.0                     |
| pccBF              | mutMR              | 1104179 | 1106508 | 2330  | O | 4 | 6.8,2.6,2.1,1.4             | 0 | X                     | 4 | 11.8,2.3,1.9,1.0            |
| mutMF              | rluAR              | 1106115 | 1112039 | 5925  | O | 2 | 3.9,1.3                     | 2 | 13.9,10.1             | 3 | 4.1,2.8,1.9                 |
| rluAF              | pgkF               | 1111703 | 1114198 | 2496  | O | 3 | 9.7,8.7,3.7                 | 2 | 10.7,8.0              | 2 | 2.8,2.1                     |
| pgkR               | virB42R            | 1113853 | 1119485 | 5633  | O | 1 | 9.2                         | 1 | 8.6                   | 2 | 2.8,2.2                     |
| virB42F            | pdhCR              | 1119131 | 1125927 | 6797  | X |   |                             |   |                       |   |                             |
| pdhCF              | recRF <sup>2</sup> | 1125381 | 1129180 | 3800  | X |   |                             |   |                       |   |                             |
| recRR <sup>2</sup> | hemHR              | 1128856 | 1132853 | 3998  | O | 2 | 11.0,2.4                    | 1 | 9.2                   | 3 | 4.5,2.5,1.6                 |
| hemHF              | priNR              | 1132430 | 1146801 | 14372 | O | 1 | 14.6                        | 1 | 26.0                  | 3 | 6.0,1.9,1.0                 |
| priNF              | petAF              | 1146501 | 1149034 | 2534  | O | 2 | 2.3,0.5                     | 1 | 21.2                  | 1 | 3.8                         |
| petAR              | bioYF              | 1148836 | 1154471 | 5636  | O | 1 | 4.9                         | 1 | 7.9                   | 3 | 5.5,2.8,2.5                 |
| fliJR              | dapFR              | 1153905 | 1155945 | 2041  | X |   |                             |   |                       |   |                             |
| dapFF              | sojR               | 1155564 | 1165038 | 9475  | X |   |                             |   |                       |   |                             |
| sojF               | lolER              | 1164687 | 1175970 | 11284 | O | 5 | 22.0,9.9,5.5,3.9,2.9        | 3 | 49.3,24.1,12.4        | 3 | 14.5,3.0,2.4                |
| lolEF              | clpAR              | 1175682 | 1185179 | 9498  | O | 7 | 7.1,3.7,2.7,1.9,1.8,1.2,0.8 | 2 | 21.3,4.1              | 3 | 8.1,1.3,1.0                 |
| clpAF              | kefBF              | 1184849 | 1194978 | 10130 | O | 3 | 14.5,10.6,2.3               | 3 | 24.5,6.6,5.5          | 3 | 3.4,1.8,1.4                 |
| kefBR              | mreBR              | 1194645 | 1203967 | 9323  | O | 5 | 5.9,4.7,3.3,2.9,1.5         | 5 | 18.0,13.1,8.2,5.0,2.9 | 7 | 4.7,3.8,2.8,1.8,1.3,1.0,0.7 |
| mreBF              | ftsIF              | 1203466 | 1215215 | 11750 | O | 4 | 15.1,13.3,4.1,2.9           | 4 | 23.3,8.0,4.4,3.0      | 3 | 6.1,4.3,1.9                 |
| ftsIR              | htpGR              | 1214675 | 1218384 | 3710  | O | 4 | 16.6,11.2,5.8,3.4           | 1 | 8.6                   | 3 | 5.7,1.6,1.3                 |
| htpGF              | carAR              | 1217961 | 1235107 | 17147 | O | 0 | X                           | 2 | 16.8,6.7              | 1 | 1.8                         |
| carAF              | rpoDF              | 1234849 | 1240511 | 5663  | X |   |                             |   |                       |   |                             |
| rpoDR              | sucAR              | 1239992 | 1250884 | 10893 | O | 1 | 4.9                         | 1 | 3.9                   | 1 | 5.6                         |
| sucAF              | vdcCR              | 1250524 | 1256616 | 6093  | O | 2 | 11.7,1.3                    | 1 | 14.8                  | 2 | 7.0,3.1                     |
| vdcCF              | nusAF              | 1256118 | 1262402 | 6285  | X |   |                             |   |                       |   |                             |
| nusAR              | dnaAR              | 1262009 | 950     | 6724  | X |   |                             |   |                       |   |                             |

<sup>1</sup> O, with positive signal(s); X, no signal.

<sup>2</sup>The sequences of the primers are: leuSF, GTTTTGCAYCCAATTGGYTGGGA; leuSR, ACTGTTTGGTCYAYTGGATCCCA; ftsWF, CTTTTGCAACCTGATTCAGTATG; ftsWR, AAAGACAGCATTATGCCAAGTGC; ugtpF, AGTGCAGCYGAAGCTGCAAATTA; ugtpR, TCYAACTTCTTGCAGGTTTACC; glmSF, ATAGCACATACTCGCTGGGC; glmSR, ACTCCACTAGATTTTATCACTGC; abcT3F, GTTGGTTATTCTGGAGGTGGTAA; pinR1R, ATTATTCTCCTCACTGTNGCCTT; mppF, TCCCATTTTTTAGAACACATGGC; mppR, GGTTGRTCTTTTAAGCTGCCTC; htrAF, AGGGTTGGTGATACGGTTATGGC; htrAR, GGCTGRACTTGYACRCCAAGCCA; omp1F, ACTACTTCGTTGTATTTTRGGAGG; omp1R, TCAAACCCYCTAATCTCATTACC; recRF, GTRANGTTTGCGGAAATCTAGATAC; recRR, CAATTCNCCRCCCATTGGTAT. The other primers are shown in Table S1 .