**Supplementary File 1.** **Primers for gene cloning.**

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| PfRan forward | AGGAGGACAGAAAAATGGATTCACAAGAATATATTCCAC† |
| PfRan reverse | ATTTTCAATATCTTCTTCATCAATAGC |
| PfHsp70-1 forward | AGGAGGACAGAAAAATGGCTAGTGCAAAAGGTTC† |
| PfHsp70-1 reverse | ATCAACTTCTTCAACTGTTGG |
| PfAlba1 forward | AGGAGGACAGAAAAATGAAGAAAGATAGAGAACCAATAGAC |
| PfAlba1 reverse | TGATAAAGCTCTTCCACCTC |
| 2xFyve forward | AGGAGGACAGAAAAATGCGAATTGAATTCGAAAGTGAT |
| 2xFyve reverse | ACCGTCGACTTTTGCC |
| PfHsp70-1LID- forward | AGGAGGACAGAAAAATGGC |
| PfHsp70-1LID- reverse | GTTTTCTTCATCTTCTGCTTTG |
| RHR‡ forward | CGGTACAAACCCGGAATTCGAGCTCGGACTAATAAAAAAAAAAAACATTAAACAGGACAA |
| RHR reverse | CGAGAGATTGGGTATTAGACCTAGGGATAACAGGGTAATTAATAATACTCCTGAATAATCCCATG |
| sgRNA target site | ATTCATCTTTTCCAGCAAGT |
| LHR§ (bp 1180–1752) and the re-codonized region (bp 1753–2034) of PfHsp70-1 | TCTGGTGACCAATCAAATGCTGTCCAAGATTTATTATTATTAGATGTTTGCTCCTTATCATTAGGTTTAGAAACTGCTGGTGGTGTTATGACCAAATTAATTGAAAGAAACACAACCATACCTGCTAAAAAGAGTCAAATCTTTACTACTTATGCTGATAACCAACCAGGTGTCTTAATTCAAGTATATGAAGGTGAAAGAGCCTTAACCAAAGATAACAATTTATTAGGAAAATTTCACTTAGATGGTATTCCACCTGCACCAAGAAAGGTACCACAAATCGAAGTTACATTCGATATCGATGCTAACGGTATCTTAAACGTTACGGCTGTAGAAAAATCCACTGGTAAACAAAACCATATTACAATTACCAACGACAAAGGAAGATTATCTCAAGATGAAATTGATCGTATGGTTAATGATGCTGAAAAATACAAAGCAGAAGATGAAGAAAACAGAAAAAGAATCGAAGCAAGAAACAGCCTTGAAAATTACTGCTATGGAGTTAAAAGCTCATTAGAAGACCAAAAAATTAAAGAAAAATTACAACCAGCTGAAATTGAAACATGTATGAAGACCATAACCACCATCCTCGAATGGCTCGAGAAGAACCAATTAGCCGGGAAGGACGAGTATGAAGCCAAGCAAAAAGAAGCCGAATCCGTGTGTGCCCCCATAATGTCCAAGATCTACCAAGATGCTGCAGGAGCTGCTGGCGGAATGCCTGGAGGAATGCCCGGAGGTATGCCCGGGGGTATGCCTGGAGGAATGAATTTTCCAGGAGGAATGCCAGGAGCTGGTATGCCCGGTAATGCACCAGCAGGAAGTGGACCAACAGTAGAAGAAGTAGATTAA |

†The sequences in red represent 5′ overhangs containing Shine–Dalgarno sequence and the yeast consensus sequence for efficient protein translation.

‡RHR, right homology region of *pfhsp70-1*.

§LHR, left homology region of *pfhsp70-1*.