

Table S3 Mutagenesis, complementation and RT-PCR primers used in this study

Name (description) ^a	Sequence ^b	Template	Plasmid ^c
GP728 (QClpP-M13F-F1) GP729 (QClpP-M13R-R1)	tgtaaaacgacggccagt-GACCGTATTATCATGTTAACAGG cacacaggaaacagctatgac-ATTGGCTGGTGGATCATATAC	HSC5	pGCP647
GP730 (QClpL-M13F-F1) GP731 (QClpL-M13R-R1)	tgtaaaacgacggccagt-CGAAGAATTCCAACACTATCG cacacaggaaacagctatgac-GGACATCTCCATTAAACATGG	HSC5	pGCP648
GP732 (QClpE-M13F-F1) GP733 (QClpE-M13R-R1)	tgtaaaacgacggccagt-GAGCACAAGATAGATCCACAAAG cacacaggaaacagctatgac-CTCGATAACGCGTGTAAATCTC	HSC5	pGCP649
GP734 (QClpC-M13F-F1) GP735 (QClpC-M13R-R1)	tgtaaaacgacggccagt-CCATAGAAGAATATGAAAGCTGC cacacaggaaacagctatgac-CTGCATGACGTTCTATTG	HSC5	pGCP650
GP736 (QCtsR-M13F-F1) GP737 (QCtsR-M13R-R1)	tgtaaaacgacggccagt-GCAGAAATTAAAGCGGTCC cacacaggaaacagctatgac-CCTCACGCTCTGTCAATAAG	HSC5	pGCP651
GP712 (ClpX-M13F-F1) GP715 (ClpX-M13R-R1)	tgtaaaacgacggccagt-GAGGTGTTGACAATGACTAGTATTG cacacaggaaacagctatgac-ACCTATCGCTAGACCTGCTC	HSC5	pGCP1001
GP258 (5'GuAB-BamHI-F1) GP206 (5'GuAB-Clal-P-R2) GP207 (3'GuAB-PstI-F3) GP259 (3'GuAB-KpnI-R4)	GCT- <u>GGATCC</u> -CTATGAAAGAAAGGATCAAGCG <u>GCT</u> -ATCGAT-AATTAATATTACAGTCACAGAAATAG <u>GCT</u> -CTGCAG-TAGTAACTTTAACGGCTGACATATTG GCT- <u>GGTACC</u> -AGTCATTCCCTAGAGTTGTTGC	HSC5	pGCP140b
GP209 (sfGFP-Clal-F) GP038 (sfGFP-PstI-R)	GCT- <u>ATCGAT</u> -AAGAAGGGAGATATACATATGAGCAAAG CCC- <u>CTGCAG</u> -TTATTGTAGAGCTCATCCATGC	pGCP059	pGCP189
GP687 (3'GuAB-ClpX ^R -F) GP688 (3'GuAB-ClpX ^R -R)	gcactgataatttaatttatcgataagaaggagatatacat-ATGGCAGGAAATAGAACTAACG caatatgtcgcccttaaagttactactgcgttta-AGCTGTCTCTAAAACGGG	HSC5	pGCP610
CK550 (ΔSpeB-BamHI-F1) CK549 (ΔSpeB-R2) CK548 (ΔSpeB-F3) CK547 (ΔSpeB-KpnI-R4)	CCC- <u>GGATCC</u> -GATAAACATCAGCCAGGAAAAAGCC <u>TG</u> CACCTGCTTGTAGCTGCTG <u>GATGGTCTGACCGACGTAAC</u> CCC- <u>GGTACC</u> -GCGTTGATGACCTCCCTTATC		pGCP485 (pCK365)
ZC374 (ΔSpxA1-SalI-F1) ZC375 (ΔSpxA1-R2) ZC376 (ΔSpxA1-F3) ZC377 (ΔSpxA1-PstI-R4)	CCCCTCGAG- <u>GTGAC</u> -GAAGATCATCGAAAATTCTGCTACATG TTTC-GCTAGGTGATAAAAAGGTAAACCATATTTT GAAATTGAGGGGTGATATGTCAGG CCCCGGG- <u>CTGCAG</u> -GATTAATGGGGTGACGAACGTC	HSC5	pGCP1289 (pZC165)
GP799 (ΔSpxA2-M13R-F1) ZC380 (ΔSpxA2-R2) ZC379 (ΔSpxA2-F3) GP800 (ΔSpxA2-M13F-R4)	cacacaggaaacagctatgac-GACTACTGTTCATAGGTGTTGG GCTCGTACAACATTGAAATCTG CACGATTTCAGTTGACGAGC-GCACGATTACGTGCTGCA tgtaaaacgacggccagt-CCCACCTCAAGACATAACCAAC	HSC5	pGCP1290 (pZC192)
ZC388 (pSpxA1-6xHis-EcoRI-F) ZC392 (pSpxA1-6xHis-PstI-R)	AACT- <u>GAATTC</u> -ATGGTTACCTTATTTTATCACCTAGCTGTACCC TGAT- <u>CTGCAG</u> - <u>TCAGTGGTGGTGGTGGT</u> -CCCCCTCAATTCTGCTTTATCGTTGCTTGCACG	HSC5	pZC169
ZC390 (pSpxA2-6xHis-EcoRI-F) ZC393 (pSpxA2-6xHis-PstI-R)	AACT- <u>GAATTC</u> -ATGATTAATTTACACGATTCAAGTTG TGAT- <u>CTGCAG</u> - <u>TTAGTGGTGGTGGTGGT</u> -GAGTCAGCACGTAATCGTGTCTCAG		pZC170
GP1021 (<i>recA</i> -F) GP1022 (<i>recA</i> -R) GP1023 (<i>speB</i> -F) GP1024 (<i>speB</i> -R) JLP29 (<i>ropB</i> -F) JLP30 (<i>ropB</i> -R) CK361 (<i>slo</i> -F) CK362 (<i>slo</i> -R)	AGTATGCGATTAGGAAACG TCGTTTACCGGAAGACTCTG CCAAGGTGTCGGTAAAGTAGG AGAGCTGAAGGGTTTAGTGC TGAACGGTGTGTGTCTT TGGATCGTTTGCAATGAG GCTAGTACAGAAACCAAC CTAGTGGCATTTCTGGGAG		

^aPrimers are categorized as forward (F) or reverse (R) relative to the direction of transcript.

^bSequence is shown 5' to 3'. Uppercase sequence anneals to the HSC5 chromosome, uppercase italicics sequence anneals to the *sfGFP* gene, uppercase underlined italicics sequence introduces a 6x-His tag, lowercase sequence anneals to the M13F and M13R universal primer sequences, lowercase italicics sequence anneals to the parental plasmid. Hyphens indicate junctions between contiguous DNA regions, uppercase underline indicates restriction sites, lowercase underline indicates phosphorylated 5' ends.

^cPlasmid that was constructed using the indicated primers.