**Supplementary File 1. Table of oligonucleotides used in this study**

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| **Name** | **Sequence** |
| AB\_Marker\_F | GAGGGAGGAAAGGCAGGA |
| AB\_Marker\_R | CGCCGTATCTGTGCTCTC |
| BgaA\_5FLANK\_F | CCTACATTTGATGACCTTCTTAACGCC |
| BgaA\_5FLANK\_R | AACTTCGTCAGTGTCGCCTTGC |
| *bgaA*\_FLANK\_F | GTTGCTACTAAACGTCTTCAAGGACG |
| *bgaA*\_FLANK\_R | CGCCAAACTTCAAGAACAGATACAGG |
| pLEM023\_F | CACGATTACTTGGGGATCTCCCCGCGAAAGCGGG |
| pLEM023\_R | TCCTGCCTTTCCTCCCTCGTCATACCATGTATACCACTTGG |
| *lytA*\_5F\_F | GATGAGTTCAATTGTATCTATCGGCAGTG |
| *lytA\_*5F\_R | TCCTGCCTTTCCTCCCTCCTACTCCTTATCAATTAAAACAACTCATTTTTTACAATCC |
| *lytA*\_3F\_F | GAGAGCACAGATACGGCGCCAGATGGCTTGATTACAGTAAAATAATAATGG |
| *lytA*\_3F\_R | CTCAATCTATATAACATAGCTTTATGACTGATACC |
| *lytA*\_5F\_SEQ | GGACTTGCTACCATTATTTCGCAAGG |
| *tacL*\_5F\_F | GACTTGGCTTCAATTAGAAAAAGG |
| *tacL* \_5F\_R | TCCTGCCTTTCCTCCCTCGCCTATTGATTTCAAAATGAATCC |
| *tacL* \_3F\_F | G GAGAGCACAGATACGGCGGGCTTTATTTTCTTGCTAGTTATGTGC |
| *tacL* \_3F\_R | TGCGTGTTTTAAACCGTTCACGAAATCTTTAGC |
| *tacL* \_5F\_SEQ | GGACTCTGCCTTTGTTCCAATACAACTACGCAGGC |
| *ftsH*\_5F\_F | CAACAAATACCTGTTTCACGTGAAACATCC |
| *tacL* \_5F\_R | TCCTGCCTTTCCTCCCTCGAATACACTTCCTCTTTCAATACTCCAATATAAGG |
| *ftsH* \_3F\_F | GAGAGCACAGATACGGCGGAAAAATAACCCTGAGAGAGGCTGG |
| *ftsH* \_3F\_R | CAGTACTACAACTTATGTTGTAGCGCC |
| *ftsH* \_5F\_SEQ | TCCGCAGGCTGATGAAAAGG |
| *tacL*\_F\_nativeRBS\_XhoI | TATCTCGAGGGTACAATATAGGATAGCTTACTATTATCTGAATCAGC |
| *tacL*\_R\_BamHI | ATAGGATCCCAAACTTATAAAACTTAATCCGTCATGTCCGATACC |
| *tacL*\_FLAG | TTACTTGTCGTCATCGTCTTTGTAGTCATCCGTCATGTCCGATACCAACATTCGATGC |
| AB\_marker\_FLAG\_F | GACTACAAAGACGATGACGACAAGTAAGAGGGAGGAAAGGCAGGA |
| *tacL*\_ABmarker\_F | GAGAGCACAGATACGGCGGTTTTATAAGTTTGAAATCTTCTACC |
| *lytA* \_H26A\_F | AGGCAAGTACACGCAGCCTCAACTGGGAATCCG |
| *lytA* \_H26A\_R | CGGATTCCCAGTTGAGGCTGCGTGTACTTGCCT |
| *lytA*\_ABmarkerF\_R | TCCTGCCTTTCCTCCCTCCCATTATTATTTTACTGTAATCAAGCCATCTGG |
| *lytA*\_3F\_F\_ABmarker\_R | GAGAGCACAGATACGGCGAATGTCTTTCAAATCAGAACAGCGCATATTATTAGGTC |
| *lytA*\_F\_purification\_NdeI | GCCCATATGGAAATTAATGTGAGTAAATTAAGAACAGATTTGCC |
| *lytA*\_R\_purification\_HindIII | GCCAAGCTTTTATTTTACTGTAATCAAGCCATCTGGCTCTACTGTGAATTCTGG |