**Table S2. List of plasmids and primers used in this Study.**

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| --- | --- | --- |
| Primer name | Description | Reference |
| pCasKP-apr | Thermosensitive plasmid carrying Cas9 gene and lambda red system; AprR | (Wang et al., 2022)Provided By Ji Lab. |
| pSGKP-spe | Expressing sgRNA and carrying *sacB*; SpeR |
| **Primers** |  |  |
| ZF-pspA1 | tagtGCAGTTTGCCGAACTGAAAGCGG | This Study  For pspA deletion |
| ZF-pspA2 | aaacCCGCTTTCAGTTCGGCAAACTGC |
| ZF-pspA3 | TGTCGCCAGCTCATCGAGAAACAGCGTC |
| ZF-pspA4 | TTTCTCGATGAGCTGGCGACA |
| ZF-pspA5 | TGAAACCAGAACTATGAGGATTGAAATTGTATGATTGCGCGGCGCGGCGTTGCG |
| ZF-pspA6 | ATGAGCTCCACCGCGGTGGCGGCCGCTCTAGCCGTACAGCTCGCTGTCCGGTAT |
| ZFqP1-F | GACGATCCCTAGCTGGTCTG | This Study  For qPCR |
| ZFqP1-R | GTGCAATATTCCCCACTGCT |
| ZFqP2-F | GACATCCCGTTCGACTACCT |
| ZFqP2-R | GCAGCTGTGAGACGTTAAGG |