Fig. S1.

CATATGGCGATGAAAAAACTGCTGATCGCGTCTCTGCTGTTCTCTTCTGCGACCGTTTACGGT**GCTAG**
CGAAGGTTTCGTTGTTAAAGACATCCACTTTGAAGGTCTGCAACGTGTTGCGGTTGGTGCGGCGCTGC
TGTCTATGCCGGTTCGTACCGGCGACACCGTGAACGACGAAGACATCTCTAACACCATCCGTGCGCTG
TTCGCGACCGGCAACTTTGAAGACGTTCGTGTTCTGCGTGACGGTGACACCCTGCTGGTTCAGGTTAA
AGAACGTCCGACCATCGCGTCTATCACCTTCTCTGGTAACAAATCTGTTAAAGACGACATGCTGAAAC
AGAACCTGGAAGCGTCTGGTGTTCGTGTTGGTGAATCTCTGGACCGTACCACCATCGCGGACATCGAA
AAAGGTCTGGAAGACTTCTACTACTCTGTTGGTAAATACTCTGCGTCTGTTAAAGCGGTTGTTACCCC
GCTGCCGCGTAACCGTGTTGACCTGAAACTGGTTTTCCAGGAAGGTGTTTCTGCGGAAATCCAGCAGA
TCAACATCGTTGGTAACCACGCTTTCACCACCGACGAACTGATCTCTCACTTCCAACTGCGTGACGAA
GTTCCGTGGTGGAACGTGGTTGGTGACCGTAAATACCAGAAACAGAAACTGGCGGGTGACCTGGAAAC
CCTGCGTTCTTACTACCTGGACCGTGGTTACGCGCGTTTCAACATCGACTCTACCCAGGTTTCTCTGA
CCCCGGACAAAAAAGGTATCTACGTTACCGTGAACATCACCGAAGGTGACCAGTACAAACTGTCTGGT
GTTGAAGTTTCTGGTAACCTGGCGGGTCACTCTGCGGAAATCGAACAACTGACCAAAATCGAACCGGG
TGAACTGTATAACGGCACCAAAGTTACCAAAATGGAAGACGACATCAAAAAACTGCTGGGTCGTTACG
GTTACGCTTACCCGCGTGTTCAGTCTATGCCGGAAATCAACGACGCGGACAAAACCGTTAAACTGCGT
GTGAACGTGGACGCGGGTAACCGTTTCTACGTTCGTAAAATCCGTTTTGAAGGTAACGACACCTCTAA
AGACGCGGTTCTGCGTCGTGAAATGCGTCAGATGGAAGGTGCGTGGCTGGGTTCTGACCTGGTTGACC
AGGGTAAAGAACGTCTGAACCGTCTGGGTTTCTTTGAAACCGTTGACACCGACACCCAGCGTGTTCCG
GGTTCCCCGGACCAGGTTGACGTTGTTTACAAAGTTAAAGAACGTAACACC**GGATCC**TTCAACTTCGG
TATCGGTTACGGCACCGAATCTGGTGTTTCTTTCCAGGCGGGTGTTCAGCAGGACAACTGGCTGGGCA
CCGGTTACGCGGTTGGTATCAACGGCACCAAAAACGACTACCAGACCTACGCGGAACTGTCTGTTACC
AACCCGTACTTCACCGTTGACGGTGTTTCTCTGGGTGGTCGTCTGTTCTACAACGACTTCCAGGCGGA
CGACGCGGACCTGTCTGACTACACCAACAAATCTTACGGCACCGACGTTACCCTGGGTTTCCCGATCA
ACGAATACAACTCTCTGCGTGCGGGTCTGGGTTACGTTCACAACTCTCTGTCTAACATGCAGCCGCAG
GTTGCGATGTGGCGTTACCTGTACTCTATGGGTGAACACCCGTCTACCTCTGACCAGGACAACTCTTT
CAAAACCGACGACTTCACCTTCAACTACGGTTGGACCTACAACAAACTGGACCGTGGTTACTTCCCGA
CCGACGGTTCTCGTGTGAACCTGACCGGCAAAGTTACCATTCCGGGTTCTGACAACGAATACTACAAA
GTTACCCTGGACACCGCGACCTACGTTCCGATTGACGACGACCACAAATGGGTTGTTCTGGGTCGTAC
CCGTTGGGGTTACGGTGACGGTCTGGGTGGTAAAGAAATGCCGTTCTACGAAAACTTCTACGCGGGTG
GTTCTTCTACCGTTCGTGGTTTCCAGTCTAACACCATCGGTCCGAAAGCGGTTTACTTCCCGCACCAG
GCGTCTAACTACGACCCGGACTACGACTACGAATGCGCGACCCAGGACGGTGCGAAAGACCTGTGCAA
ATCTGACGACGCGGTTGGTGGTAACGCGATGGCGGTTGCGTCTCTGGAATTTATCACCCCGACCCCGT
TCATCTCTGACAAATACGCGAACTCTGTTCGTACCTCTTTCTTCTGGGACATGGGCACCGTTTGGGAC
ACCAACTGGGACTCTTCTCAGTATTCTGGTTACCCGGACTACTCTGACCCGTCTAACATCCGTATGTC
TGCGGGTATCGCGCTGCAATGGATGTCTCCGCTGGGGCCCCTGGTTTTCTCTTACGCGCAGCCGTTCA
AAAAATACGACGGTGACAAAGCGGAACAGTTCCAGTTCAACATCGGTAAAACCTGGTAATGAGGGCCC
TTAGTGTTTAGCTATGCTCAACCTTTTAAGAAGTATGATGGCGATAAGGCTGAGCAATTTCAATTTAA
TATCGGCAAGACTTGGGGCGGCAGATCT**CTCGAG**

Figure S1. DNA sequence of *bamA*. The figure show the DNA sequence of codon optimized *bamA* used in this study. The restriction enzyme recognition sites located within wild-type *E. coli bamA* were purged from the sequence and *Nde*I, *Nhe*I, *Bam*HI and *Xho*I were introduced at the positions indicated (shown as bold and underlined).