Figure S1  Genomic PCR analysis of randomly selected transformants of each gene. Five transformants were randomly selected for genomic PCR. The integrations of most target genes into the genome were confirmed by PCR using the primers pAN-seq-F and pAN-seq-R, whereas the integration of ATEG_01954 was confirmed using the primers M13-47 and ATEG_01954-R1, and the co-integrations of the cadA and mfsA gene were confirmed using the primers pAN-seq-F and cadA-R or mfsA-R. In most cases, both the target genes and hph were amplified except co-transformants of cadA and mfsA (E) and transformants of ATEG_01954 (G). The target genes were detected in most transformants.

A: mttA-transformants
Lane 1, 1 kb DNA ladder; Lanes 2-7, transformants 2, 5, 6, 7, 12, 16; Lane 8, WT; Lane 9, pAN7-1.

B: cadA-transformants
Lane 1, 1 kb DNA ladder; Lanes 2-7, transformants 2, 5, 12, 18, 21, 22; Lane 8, WT.

C: mfsA-transformants
Lane 1, 1 kb DNA ladder; Lanes 2-7, transformants 2, 9, 10, 12, 17, 24; Lane 8, WT.

D: ATEG_09969-transformants
Lane 1, 1 kb DNA ladder; Lanes 2-7, transformants 4, 5, 6, 9, 10, 12.

E: co-transformants of cadA and mfsA
Lane 1, 1 kb DNA ladder; Lanes 2-8, the cadA fragment amplified from transformants 3, 4, 5, 6, 7, 8, 9; Lane 9, WT; Lane 10, DL200 DNA ladder; Lanes 11-17, the mttA fragment amplified from transformants 3, 4, 5, 6, 7, 8, 9; Lane 18, WT.

F: gpdA-transformants
Lane 1, 1 kb DNA ladder; Lanes 2-7, transformants 1, 4, 7, 12, 23, 24; Lane 8, WT.

G: ATEG_01954-transformants
Lane 1, DL 2000 DNA ladder; Lanes 2-7, transformants 1, 3, 6, 7, 11, 13; Lane 8, WT.
**H: acoA-transformants**
Lane 1, 1 kb DNA ladder; Lanes 2-7, transformants 1, 5, 7, 9, 14, 23; Lane 8, WT.

**I: mt-pfkA-transformants**
Lane 1, 1 kb DNA ladder; Lanes 2-7, transformants 1, 5, 7, 9, 13, 15, 16, 19; Lane 8, WT; Lane 9, pAN7-1; Lane 10, pAN52-mtpfkA.

**J: citA-transformants**
Lane 1, 1 kb DNA ladder; Lanes 2-7, transformants 1, 5, 7, 9, 13, 15, 16, 19, 21, 22, 23; Lane 8, WT.