**Fig. S1.** PCR amplification of the merA gene from positive clones of the pBI121 vector isolated from transformed E. coli DH5 cells.
Lane M: Supermix DNA ladder; Lane 1: Positive control E. coli plasmid R100; Lanes 2–4: Negative control; Lanes 5–7: Amplified merA from positive clone of pBH121.

**Fig. S2.** Restriction digestion pattern of pBI121-merA recombinant construct with BamHI and Smal restriction enzymes showing the 1,695-bp fragment of merA.
Lane M: Supermix DNA ladder (500 bp); Lanes 1–3: Restricted pBI121-merA construct; Lane 4: Uncut (not restricted) pBI121-merA construct (14,695 bp).
Fig. S3. Affinity purification of 6×-His-merA protein: 6×-His-merA purified from Ni-NTA beads using 80 mM imidazole. Lane M: Protein marker; Lane 1: FT, Flow-through; Lane 2: W1, first wash with 20 mM imidazole; Lane 3: W2, Second wash with 20 mM imidazole; Lanes 4, 5, 6, and 7 correspond to E1, E2, E3, and E4, respectively, showing elutions with 80 mM imidazole. All fractions run on 10% SDS-PAGE. Asterisks (*) denote likely histidine-rich cross-contaminated bands, copurified, but not detected by Western blot analysis.

Fig. S4. Ponceau-S-stained SDS–PAGE gel on membrane showing total proteins of transformed and wild-type plants. Total cell protein of all plants was run on 10% SDS–PAGE and stained with Ponceau-S stain. Very distinct overexpressed bands of ~66 kD (~69 kD may be due to glycosylation) MerA were present in lines TN11, TN13, and TN14. Lane M: Protein marker; Lanes 1–5: Total protein isolated from transgenic lines TN11, TN12, TN13, TN14, and TN15; Lane 6: Total protein isolated from wild-type (WN1) plants.