



Fig. S1 Schematic diagram showing the construction of *PdbrlA* plasmid and identification of $\Delta PdbrlA$ transformants by PCR

(a) Construction of *PdbrlA* plasmid. Black arrows represented *PdbrlA* gene, while white arrows represented neomycin resistant cassette (*neo*). The position of PCR primers were indicated with small arrows. (b, c) Identification of $\Delta PdbrlA$ by using primers brlA-i-F/brlA-i-R and brlA-V-F/brlA-V-R, respectively. M: 5 kb DNA marker; Lane 1: the only one transformant derived from PdKH8; Lanes 2–9: the 8 transformants derived from $\Delta PdKu80-25$; Lane 10: the ectopic transformant; Lane 11: wild-type strain PdKH8