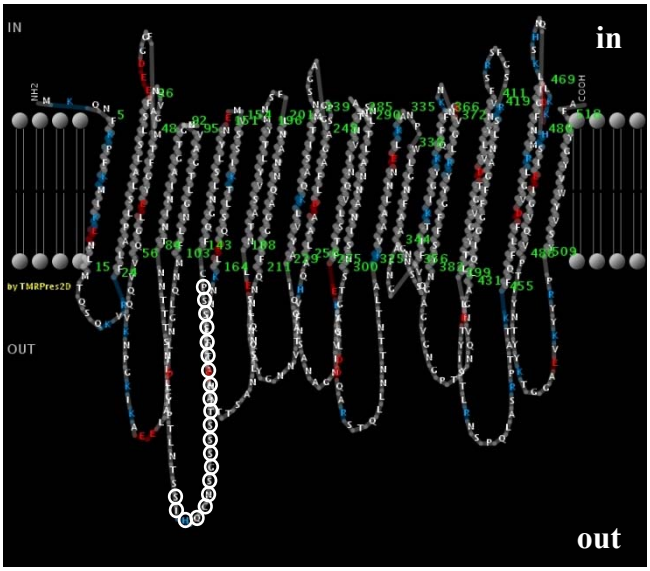
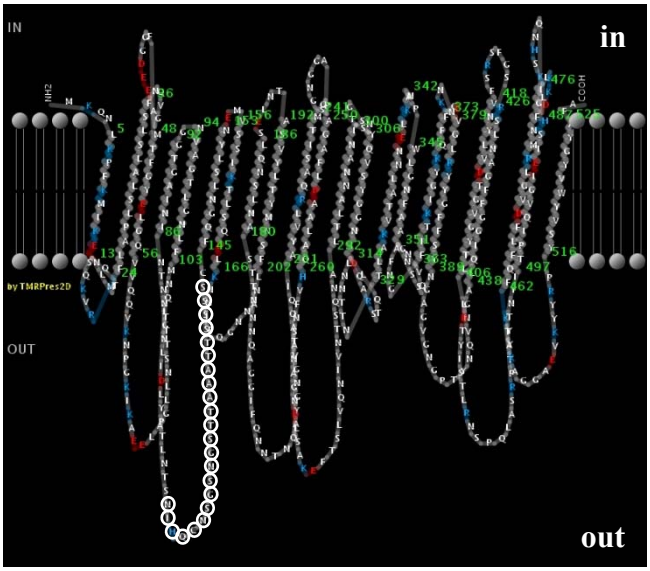
Alignment of AlpB amino acid sequences in *H. pylori* strains used in this study (1402:TK1402, 1029:TK1029, 2003:KR2003, 11638:NCTC11638). The variable region corresponding to amino acid positions 121 to 146 of AlpB is shown in underline. The replaced region for the construction of TK1402Δ*alpB/alpB*$_{1402}$V, TK1402Δ*alpB/alpB*$_{11638}$V, TK1402Δ*alpB/alpB*$_{1029}$V and TK1402Δ*alpB/alpB*$_{2003}$V is shown in a box.

Fig. S1

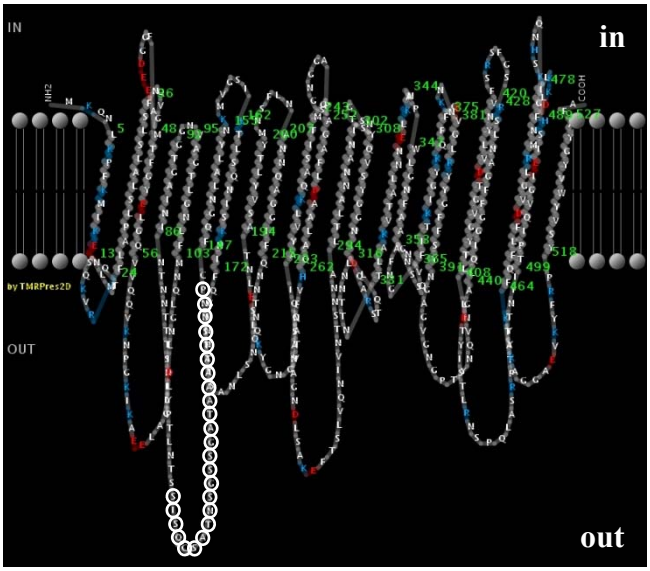
(A) TK1029



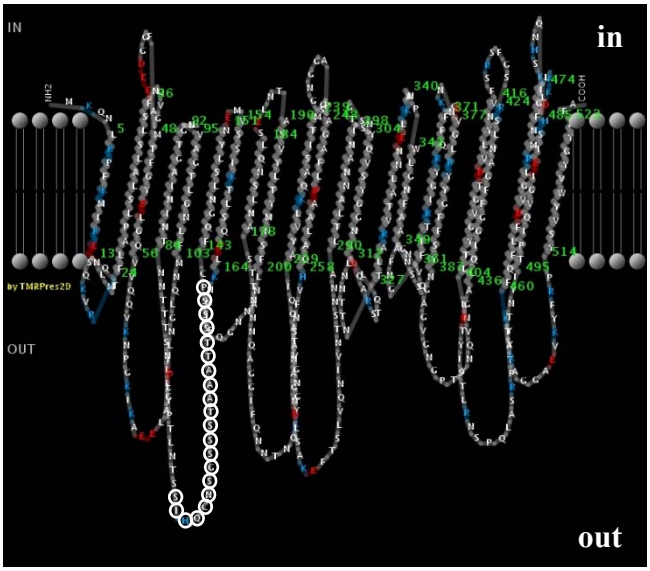
(B) KR2003



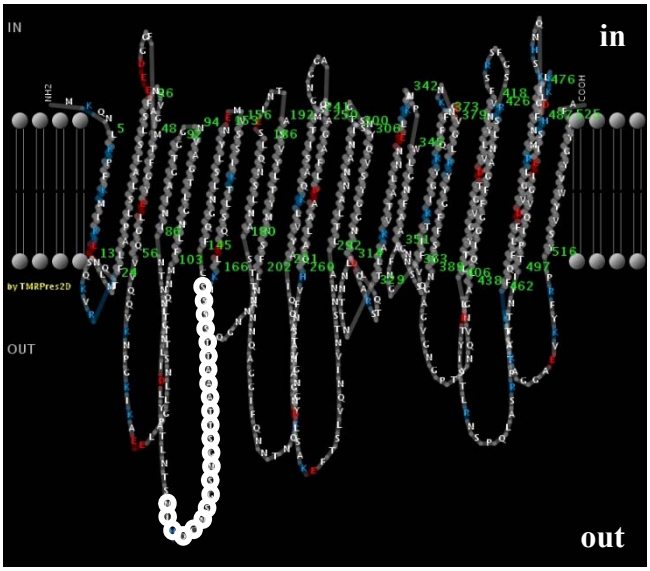
(C) TK1402Δ*alpB/alpB*$_{11638}$



(D) TK1402Δ*alpB/alpB*$_{1029}$



(E) TK1402Δ*alpB/alpB*$_{2003}$



Two-dimensional structure of AlpB from strains TK1029 (A), KR2003 (B), TK1402Δ*alpB/alpB*$_{11638}$ (C), TK1402Δ*alpB/alpB*$_{1029}$ (D), and TK1402Δ*alpB/alpB*$_{2003}$ (E), based on the prediction by PRED-TMBB. The amino acids of the variable region are shown by white circles. Strains TK1402Δ*alpB/alpB*$_{11638}$, TK1402Δ*alpB/alpB*$_{1029}$ and TK1402Δ*alpB/alpB*$_{2003}$ were restored strains derived from the TK1402 *alpB* mutant restored with NCTC11638, TK1029 or KR2003 *alpB*, respectively.

Fig. S2