

Table S2: Plasmids used in this study

Plasmid	Characteristics	Reference
pKP325	pACYC184 derivative carrying <i>araC</i> and the <i>tonB</i> gene under the control of the arabinose promoter	(2)
pKP477	pKP325 with entire <i>tonB</i> gene deleted from plasmid	(3)
pKP442	pKP325 with an <i>XhoI</i> site created with a silent point mutation at TonB A166 at the 830 bp of the <i>tonB</i> gene	(3)
pKP1056	pKP325 (TonB F125A)	Present study
pKP1057	pKP325 (TonB S151A)	Present study
pKP1151	pKP325 (TonB S157A)	Present study
pKP877	pKP325 (TonB Y163A)	Present study
pKP509	pKP442 (TonB F180A)	(3)
pKP1152	pKP325 (TonB T183A)	Present study
pKP1321	pKP325 (TonB G186A)	Present study
pKP1153	pKP325 (TonB S195A)	Present study
pKP495	pKP442 (TonB F202A)	(3)
pKP496	pKP442 (TonB W213A)	(3)
pKP497	pKP442 (TonB Y215A)	(3)

pKP1058	pKP325 (TonB S222A)	Present study
pKP511	pKP442 (TonB F230A)	(3)
pKP1059	pKP325 (TonB T235A)	Present study
pKP1060	pKP325 (TonB T236A)	Present study
pKP1098	pKP1056 (TonB F125A, Y163A)	Present study
pKP1092	pKP509 (TonB F125A, F180A)	Present study
pKP1093	pKP495 (TonB F125A, F202A)	Present study
pKP1099	pKP496 (TonB F125A, W213A)	Present study
pKP1094	pKP497 (TonB F125A, Y215A)	Present study
pKP1100	pKP511 (TonB F125A, F230A)	Present study
pKP1083	pKP509 (TonB Y163A, F180A)	Present study
pKP1106	pKP495 (TonB Y163A, F202A)	Present study
pKP1115	pKP496 (TonB Y163A, W213A)	Present study
pKP1095	pKP497 (TonB Y163A, Y215A)	Present study
pKP1130	pKP511 (TonB Y163A, F230A)	Present study
pKP1324	pKP1056 (TonB F125A, G186A)	Present study
pKP1366	pKP877 (TonB Y163A, G186A)	Present study
pKP1315	pKP509 (TonB F180A, G186A)	Present study
pKP1356	pKP495 (TonB G186A, F202A)	Present study
pKP1316	pKP496 (TonB G186A, W213A)	Present study
pKP1330	pKP497 (TonB G186A, Y215A)	Present study
pKP1331	pKP511 (TonB G186A, F230A)	Present study
pKP568	pKP442 (TonB C18G)	(1)

pKP1070	pKP568 (TonB F125C)	Present study
pKP945	pKP568 (TonB A150C)	Present study
pKP946	pKP568 (TonB S151C)	Present study
pKP947	pKP568 (TonB G152C)	Present study
pKP948	pKP568 (TonB P153C)	Present study
pKP949	pKP568 (TonB R154C)	Present study
pKP950	pKP568 (TonB A155C)	Present study
pKP951	pKP568 (TonB L156C)	Present study
pKP952	pKP568 (TonB S157C)	Present study
pKP953	pKP568 (TonB R158C)	Present study
pKP934	pKP568 (TonB N159C)	Present study
pKP588	pKP568 (TonB Q160C)	Present study
pKP592	pKP568 (TonB P161C)	Present study
pKP587	pKP568 (TonB Q162C)	Present study
pKP586	pKP568 (TonB Y163C)	Present study
pKP585	pKP568 (TonB P164C)	Present study
pKP584	pKP568 (TonB A165C)	Present study
pKP589	pKP568 (TonB R166C)	Present study
pKP590	pKP568 (TonB A167C)	Present study
pKP593	pKP568 (TonB Q168C)	Present study
pKP594	pKP568 (TonB A169C)	Present study
pKP591	pKP568 (TonB L170C)	Present study
pKP595	pKP568 (TonB R171C)	Present study

pKP600	pKP568 (TonB I172C)	Present study
pKP596	pKP568 (TonB E173C)	Present study
pKP597	pKP568 (TonB G174C)	Present study
pKP620	pKP568 (TonB Q175C)	Present study
pKP598	pKP568 (TonB V176C)	Present study
pKP599	pKP568 (TonB K177C)	Present study
pKP601	pKP568 (TonB V178C)	Present study
pKP602	pKP568 (TonB K179C)	Present study
pKP569	pKP568 (TonB F180C)	(1)
pKP603	pKP568 (TonB D181C)	Present study
pKP604	pKP568 (TonB V182C)	Present study
pKP605	pKP568 (TonB T183C)	Present study
pKP610	pKP568 (TonB P184C)	Present study
pKP611	pKP568 (TonB D185C)	Present study
pKP612	pKP568 (TonB G186C)	Present study
pKP613	pKP568 (TonB R187C)	Present study
pKP614	pKP568 (TonB V188C)	Present study
pKP615	pKP568 (TonB D189C)	Present study
pKP638	pKP568 (TonB N190C)	Present study
pKP642	pKP568 (TonB K191C)	Present study
pKP639	pKP568 (TonB Q192C)	Present study
pKP640	pKP568 (TonB I193C)	Present study
pKP641	pKP568 (TonB L194C)	Present study

pKP606	pKP568 (TonB S195C)	Present study
pKP607	pKP568 (TonB A196C)	Present study
pKP608	pKP568 (TonB K197C)	Present study
pKP609	pKP568 (TonB P198C)	Present study
pKP468	pKP568 (TonB A199C)	(1)
pKP469	pKP568 (TonB M200C)	(1)
pKP470	pKP568 (TonB M201C)	(1)
pKP415	pKP568 (TonB F202C)	(1)
pKP417	pKP568 (TonB E203C)	(1)
pKP418	pKP568 (TonB R204C)	(1)
pKP462	pKP568 (TonB E205C)	(1)
pKP463	pKP568 (TonB V206C)	(1)
pKP464	pKP568 (TonB K207C)	(1)
pKP416	pKP568 (TonB N208C)	(1)
pKP465	pKP568 (TonB A209C)	(1)
pKP466	pKP568 (TonB M210C)	(1)
pKP467	pKP568 (TonB R211C)	(1)
pKP471	pKP568 (TonB R212C)	(1)
pKP472	pKP568 (TonB W213C)	(1)
pKP473	pKP568 (TonB R214C)	(1)
pKP474	pKP568 (TonB Y215C)	(1)
pKP475	pKP568 (TonB E216C)	(1)
pKP621	pKP568 (TonB P217C)	Present study

pKP643	pKP568 (TonB G218C)	Present study
pKP616	pKP568 (TonB K219C)	Present study
pKP617	pKP568 (TonB P220C)	Present study
pKP618	pKP568 (TonB G221C)	Present study
pKP619	pKP568 (TonB S222C)	Present study
pKP622	pKP568 (TonB G223C)	Present study
pKP623	pKP568 (TonB I224C)	Present study
pKP624	pKP568 (TonB V225C)	Present study
pKP625	pKP568 (TonB V226C)	Present study
pKP626	pKP568 (TonB N227C)	Present study
pKP627	pKP568 (TonB I228C)	Present study
pKP632	pKP568 (TonB L229C)	Present study
pKP570	pKP568 (TonB F230C)	(1)
pKP628	pKP568 (TonB K231C)	Present study
pKP629	pKP568 (TonB I232C)	Present study
pKP630	pKP568 (TonB N233C)	Present study
pKP631	pKP568 (TonB G234C)	Present study
pKP633	pKP568 (TonB T235C)	Present study
pKP634	pKP568 (TonB T236C)	Present study
pKP635	pKP568 (TonB E237C)	Present study
pKP636	pKP568 (TonB I238C)	Present study
pKP637	pKP568 (TonB Q239C)	Present study
pKP505	pKP325 (TonB Δ 33-64)	Present study

pKP1439	pKP325 (TonB Δ 103-149)	Present study
pKP1454	pKP325 (TonB Δ 63-65)	Present study

Supplementary references

1. Ghosh, J. & Postle, K. (2005) *Mol Microbiol* **55**, 276-288.
2. Larsen, R. A., Thomas, M. G., & Postle, K. (1999) *Mol. Microbiol.* **31**, 1809-1824.
3. Ghosh, J. & Postle, K. (2004) *Mol Microbiol* **51**, 203-213.