Table S1 Bacterial strains and plasmids used in this study

Strain or plasmid	Relevant characteristic	Source
***E. coli* strains**		
S17-1 λ*pir*	*recA, thi, pro, hsdR-M+* [RP4-2-Tc::Mu::Km^R Tn*7*] (λ*pir*); Tp^R Str^R	(1)
MC4100	F- *araD139* Δ(*argF-lac*)*U169 rpsL150 relA1 flbB5301 deoC1 ptsF25 rbsR*; Str^R	(2)
***V. cholerae* strains**		
O395	Classical O1, Ogawa, Str^R derivative	(3)
RT4368	O395 Δ*tcpB1*; Str^R	(4)
RT4372	O395 Δ*tcpF1*; Str^R	(4)
CL101	O395 CTX-KmΦ; Str^R/Km^R	(4)
TK223	O395 Δ*tcpB* pTK85, Str^R/Ap^R	Laboratory collection
JMM191	O395 Δ*tcpB* pBAD22, Str^R/Ap^R	Laboratory collection
CAH034	O395 Δ*tcpB* pCHG003, Str^R/Ap^R	This study
CAH038	O395 Δ*tcpB* pCHG005; Str^R/Ap^R	This study
CAH067	O395 Δ*tcpB* pCHG016; Str^R/Ap^R	This study
CAH068	O395 Δ*tcpB* pCHG017; Str^R/Ap^R	This study

Strain or plasmid	Relevant characteristic	Source
JMM283	O395 Δ*tcpB* pJMA32; Str^R/Ap^R	This study
JMM285	O395 Δ*tcpB* pJMA33; Str^R/Ap^R	This study
JMM329	O395 Δ*tcpB* pJMA34; Str^R/Ap^R	This study
JMM301	O395 Δ*tcpB* pJMA35; Str^R/Ap^R	This study
JMM318	O395 Δ*tcpB* pJMA36; Str^R/Ap^R	This study
JMM319	O395 Δ*tcpB* pJMA37; Str^R/Ap^R	This study
JMM321	O395 Δ*tcpB* pJMA38; Str^R/Ap^R	This study
JMM322	O395 Δ*tcpB* pJMA39; Str^R/Ap^R	This study
JMM323	O395 Δ*tcpB* pJMA40; Str^R/Ap^R	This study
JMM324	O395 Δ*tcpB* pJMA41; Str^R/Ap^R	This study
JMM325	O395 Δ*tcpB* pJMA42; Str^R/Ap^R	This study
JMM327	O395 Δ*tcpB* pJMA43; Str^R/Ap^R	This study
JMM330	O395 Δ*tcpB* pJMA45; Str^R/Ap^R	This study
JMM328	O395 Δ*tcpB* pJMA46; Str^R/Ap^R	This study
JMM371	O395 Δ*tcpB* pJMA47; Str^R/Ap^R	This study

Strain or plasmid	Relevant characteristic	Source
JMM373	O395 Δ*tcpB* pJMA48; Str^R/Ap^R	This study
JMM377	O395 Δ*tcpB* pJMA49; Str^R/Ap^R	This study
JMM369	O395 Δ*tcpB* pJMA50; Str^R/Ap^R	This study
JMM375	O395 Δ*tcpB* pJMA51; Str^R/Ap^R	This study
JMM379	O395 Δ*tcpB* pJMA52; Str^R/Ap^R	This study
JMM382	O395 Δ*tcpB* pJMA53; Str^R/Ap^R	This study
JMM438	O395 Δ*tcpB* pJMA54; Str^R/Ap^R	This study
JMM427	O395 Δ*tcpB* pJMA55; Str^R/Ap^R	This study
JMM428	O395 Δ*tcpB* pJMA56; Str^R/Ap^R	This study
JMM419	O395 Δ*tcpB* pJMA57; Str^R/Ap^R	This study
JMM420	O395 Δ*tcpB* pJMA58; Str^R/Ap^R	This study
JMM421	O395 Δ*tcpB* pJMA59; Str^R/Ap^R	This study
JMM422	O395 Δ*tcpB* pJMA60; Str^R/Ap^R	This study
JMM423	O395 Δ*tcpB* pJMA61; Str^R/Ap^R	This study
JMM424	O395 Δ*tcpB* pJMA62; Str^R/Ap^R	This study

Strain or plasmid	Relevant characteristic	Source
JMM429	O395 Δ*tcpB* pJMA63; Str^R/Ap^R	This study
JMM430	O395 Δ*tcpB* pJMA64; Str^R/Ap^R	This study
JMM431	O395 Δ*tcpB* pJMA65; Str^R/Ap^R	This study
JMM432	O395 Δ*tcpB* pJMA66; Str^R/Ap^R	This study
JMM433	O395 Δ*tcpB* pJMA67; Str^R/Ap^R	This study
JMM434	O395 Δ*tcpB* pJMA68; Str^R/Ap^R	This study
JMM435	O395 Δ*tcpB* pJMA69; Str^R/Ap^R	This study
JMM425	O395 Δ*tcpB* pJMA70; Str^R/Ap^R	This study
JMM426	O395 Δ*tcpB* pJMA71; Str^R/Ap^R	This study
JMM448	O395 Δ*tcpB* pJMA72; Str^R/Ap^R	This study
JMM449	O395 Δ*tcpB* pJMA73; Str^R/Ap^R	This study
JMM450	O395 Δ*tcpB* pJMA74; Str^R/Ap^R	This study
JMM451	O395 Δ*tcpB* pJMA75; Str^R/Ap^R	This study
JMM452	O395 Δ*tcpB* pJMA76; Str^R/Ap^R	This study
JMM458	O395 Δ*tcpB* pJMA82; Str^R/Ap^R	This study

Strain or plasmid	Relevant characteristic	Source
JMM459	O395 Δ*tcpB* pJMA83; Str^R/Ap^R	This study
JMM460	O395 Δ*tcpB* pJMA84; Str^R/Ap^R	This study
JMM461	O395 Δ*tcpB* pJMA85; Str^R/Ap^R	This study
JMM462	O395 Δ*tcpB* pJMA86; Str^R/Ap^R	This study
RT4634	O395 *tcpB*:E5V; Str^R	This study
RT4635	O395 *tcpB*:R26E; Str^R	This study
RT4637	O395 *tcpB*:E83R; Str^R	This study
RT4638	O395 *tcpB*:C85A; Str^R	This study
RT4639	O395 *tcpB*:C85S; Str^R	This study
RT4640	O395 *tcpB*:C107A; Str^R	This study
RT4641	O395 *tcpB*:C107S; Str^R	This study
RT4642	O395 *tcpB*:LCWD249-252AAAA; Str^R	This study
RT4644	O395 *tcpB*:C250A; Str^R	This study
RT4645	O395 *tcpB*:C250S; Str^R	This study
RT4646	O395 *tcpB*:W251A; Str^R	This study

Strain or plasmid	Relevant characteristic	Source
RT4648	O395 *tcpB*:C261A; Str^R	This study
RT4649	O395 *tcpB*:C261S; Str^R	This study
RT4650	O395 *tcpB*:K278A; Str^R	This study
RT4651	O395 *tcpB*:D281A; Str^R	This study
RT4652	O395 *tcpB*:F307A; Str^R	This study
RT4653	O395 *tcpB*:K314A; Str^R	This study
RT4654	O395 *tcpB*:C321A; Str^R	This study
RT4655	O395 *tcpB*:C321S; Str^R	This study
RT4656	O395 *tcpB*:KD351-2AA; Str^R	This study
RT4657	O395 *tcpB*:S353A; Str^R	This study
RT4658	O395 *tcpB*:H366A; Str^R	This study
RT4659	O395 *tcpB*:W383A; Str^R	This study
RT4660	O395 *tcpB*:Δ392-401, RNPK408-411AKNA; Str^R	This study
RT4661	O395 *tcpB*:W420A; Str^R	This study
RT4662	O395 *tcpB*:C421S; Str^R	This study

Strain or plasmid	Relevant characteristic	Source
Plasmids		
pKAS32	pGP704 *rpsL*; Ap^R	(5)
pMIN1	pACYC184 Gm cassette from pUCGM; Gm^R/Cm^R	(6)
pTK85	pBAD22 6His-*tcpB*; Ap^R	Laboratory collection
pBAD22	pMB1 P*ara* promoter, *araC*; Ap^R	(7)
pCHG003	pBAD22 6His-*tcpB*:C421S; Ap^R	This study
pCHG005	pBAD22 6His-*tcpB*:W420A; Ap^R	This study
pCHG016	pBAD22 6His-*tcpB*:L249A; Ap^R	This study
pCHG017	pBAD22 6His-*tcpB*:W251A; Ap^R	This study
pCHG018	pBAD22 6His-*tcpB*:D252A; Ap^R	This study
pJMA32	pBAD22 6His-*tcpB*:K363A; Ap^R	This study
pJMA33	pBAD22 6His-*tcpB*:D384A; Ap^R	This study
pJMA34	pBAD22 6His-*tcpB*:KD351-2AA; Ap^R	This study
pJMA35	pBAD22 6His-*tcpB*:KD359-60AA; Ap^R	This study
pJMA36	pBAD22 6His-*tcpB*:RNPK408-411AAAA; Ap^R	This study

Strain or plasmid	Relevant characteristic	Source
pJMA37	pBAD22 6His-*tcpB*:C85A; Ap^R	This study
pJMA38	pBAD22 6His-*tcpB*:C250A; Ap^R	This study
pJMA39	pBAD22 6His-*tcpB*:C261A; Ap^R	This study
pJMA40	pBAD22 6His-*tcpB*:C321A; Ap^R	This study
pJMA41	pBAD22 6His-*tcpB*:R328A; Ap^R	This study
pJMA42	pBAD22 6His-*tcpB*:E348A; Ap^R	This study
pJMA43	pBAD22 6His-*tcpB*:K381A; Ap^R	This study
pJMA45	pBAD22 6His-*tcpB*:LCWD249-252AAAA; Ap^R	This study
pJMA46	pBAD22 6His-*tcpB*:L262P, KD351-352AA; Ap^R	This study
pJMA47	pBAD22; 6His-*tcpB*:D309A; Ap^R	This study
pJMA48	pBAD22 6His-*tcpB*:K295A; Ap^R	This study
pJMA49	pBAD22 6His-*tcpB*:K278A; Ap^R	This study
pJMA50	pBAD22 6His-*tcpB*:K314A; Ap^R	This study
pJMA51	pBAD22 6His-*tcpB*:D281A; Ap^R	This study
pJMA52	pBAD22 6His-*tcpB*:K272A; Ap^R	This study

Strain or plasmid	Relevant characteristic	Source
pJMA53	pBAD22 6His-*tcpB*:K297A; Ap^R	This study
pJMA54	pBAD22 6His-*tcpB*:C107A; Ap^R	This study
pJMA55	pBAD22 6His-*tcpB*:E392A; Ap^R	This study
pJMA56	pBAD22 6His-*tcpB*:D402A; Ap^R	This study
pJMA57	pBAD22 6His-*tcpB*:RNPK408-411ANPA; Ap^R	This study
pJMA58	pBAD22 6His-*tcpB*:D252A; Ap^R	This study
pJMA59	pBAD22 6His-*tcpB*:H366A; Ap^R	This study
pJMA60	pBAD22 6His-*tcpB*:K286A; Ap^R	This study
pJMA61	pBAD22 6His-*tcpB*:D276A; Ap^R	This study
pJMA62	pBAD22 6His-*tcpB*:E274A; Ap^R	This study
pJMA63	pBAD22 6His-*tcpB*:W383A; Ap^R	This study
pJMA64	pBAD22 6His-*tcpB*:S370A; Ap^R	This study
pJMA65	pBAD22 6His-*tcpB*:L369A; Ap^R	This study
pJMA66	pBAD22 6His-*tcpB*:S362A; Ap^R	This study
pJMA67	pBAD22 6His-*tcpB*:S353A; Ap^R	This study

Strain or plasmid	Relevant characteristic	Source
pJMA68	pBAD22 6His-*tcpB*:SS334-335AA; Ap^R	This study
pJMA69	pBAD22 6His-*tcpB*:F307A; Ap^R	This study
pJMA70	pBAD22 6His-*tcpB*:E392A, D402A; Ap^R	This study
pJMA71	pBAD22 6His-*tcpB*:Δ392-401, RNPK408-411AKNA; Ap^R	This study
pJMA72	pBAD22 6His-*tcpB*:C85S; Ap^R	This study
pJMA73	pBAD22 6His-*tcpB*:C107S; Ap^R	This study
pJMA74	pBAD22 6His-*tcpB*:C321S; Ap^R	This study
pJMA75	pBAD22 6His-*tcpB*:C250S; Ap^R	This study
pJMA76	pBAD22 6His-*tcpB*:C261S; Ap^R	This study
pJMA82	pBAD22 6His-*tcpB*:E5V; Ap^R	This study
pJMA83	pBAD22 6His-*tcpB*:R26E; Ap^R	This study
pJMA84	pBAD22 6His-*tcpB*:E83R; Ap^R	This study
pJMA85	pBAD22 6His-*tcpB*:K81A; Ap^R	This study
pJMA86	pBAD22 6His-*tcpB*:W79A; Ap^R	This study
pTRNS101	pKAS32 *tcpB*; Ap^R	This study

Strain or plasmid	Relevant characteristic	Source
pCHG006	pKAS32 *tcpB*:E5V; Ap^R	This study
pCHG010	pKAS32 *tcpB*:R26E; Ap^R	This study
pCHG007	pKAS32 *tcpB*:E83R; Ap^R	This study
pCHG008	pKAS32 *tcpB*:C85A; Ap^R	This study
pCHG011	pKAS32 *tcpB*:C85S; Ap^R	This study
pCHG014	pKAS32 *tcpB*:C107A; Ap^R	This study
pCHG009	pKAS32 *tcpB*:C107S; Ap^R	This study
pCHG015	pKAS32 *tcpB*:C250A; Ap^R	This study
pTRNS118	pKAS32 *tcpB*:C250S; Ap^R	This study
pCHG020	pKAS32 *tcpB*:W251A; Ap^R	This study
pCHG012	pKAS32 *tcpB*:C261A; Ap^R	This study
pTRNS119	pKAS32 *tcpB*:C261S; Ap^R	This study
pTRNS112	pKAS32 *tcpB*:K278A; Ap^R	This study
pTRNS109	pKAS32 *tcpB*:D281A; Ap^R	This study
pCHG013	pKAS32 *tcpB*:F307A; Ap^R	This study

Strain or plasmid	Relevant characteristic	Source
pTRNS110	pKAS32 *tcpB*:K314A; Ap^R	This study
pTRNS111	pKAS32 *tcpB*:C321A; Ap^R	This study
pTRNS116	pKAS32 *tcpB*:C321S; Ap^R	This study
pTRNS113	pKAS32 *tcpB*:KD351-2AA; Ap^R	This study
pTRNS132	pKAS32 *tcpB*:S353A; Ap^R	This study
pTRNS115	pKAS32 *tcpB*:H366A; Ap^R	This study
pTRNS114	pKAS32 *tcpB*:W383A; Ap^R	This study
pTRNS120	pKAS32 *tcpB*:Δ392-401, RNPK408-411AKNA; Ap^R	This study
pTRNS133	pKAS32 *tcpB*:C421S; Ap^R	This study

Abbreviations used: Ap^R - ampicillin resistance; Km^R - kanamycin resistance; Str^R - streptomycin resistance; Tp^R - trimethoprim resistance

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