

Table S1. Complete list of the strains analyzed in this work and ICE profiles.

The majority of the strains listed in the table carry an ICE that was not renamed according to ICE nomenclature (minus sign, column ICE name).

	Strain	ICE sequence tag	Place	Year	ICE name	ICE Profile [#]	Acc. Number	Reference
	<i>V. cholerae</i> O1 El Tor							
1.	7452	ICEVchInd5-O1Ind1994	India	1994	ICEVchInd5	1	GQ463141	Wozniak <i>et al.</i> 2009
2.	1811/98	ICEVchBan5-O1Ban1998	Bangladesh	1998	ICEVchBan5	1	GQ463140	Wozniak <i>et al.</i> 2009
3.	A481	ERS013206-O1Dji2007	Djibouti	2007	-	1	ERS013206	Mutreja <i>et al.</i> 2011
4.	MBRN14	ERS013127-O1Ind2004	India	2004	-	1	ERS013127	Mutreja <i>et al.</i> 2011
5.	A488(2)	ERS013129-O1Ban2006	Bangladesh	2006	-	1	ERS013129	Mutreja <i>et al.</i> 2011
6.	V5	ERS013130-O1Ind1989	India	1989	-	1	ERS013130	Mutreja <i>et al.</i> 2011
7.	V109	ERS013131-O1Ind1990	India	1990	-	1	ERS013131	Mutreja <i>et al.</i> 2011
8.	MBN17	ERS013134-O1Ind2004	India	2004	-	1	ERS013134	Mutreja <i>et al.</i> 2011
9.	PRL64	ERS013139-O1Ind1992	India	1992	-	1	ERS013139	Mutreja <i>et al.</i> 2011
10.	IDHO1'726	ERS013147-O1Ind2009	India	2009	-	1	ERS013147	Mutreja <i>et al.</i> 2011
11.	A130	ERS013177-O1Ind1989	India	1989	-	1	ERS013177	Mutreja <i>et al.</i> 2011
12.	A131	ERS013178-O1Ind1989	India	1989	-	1	ERS013178	Mutreja <i>et al.</i> 2011
13.	A482	ERS013207-O1Dji2007	Djibouti	2007	-	1	ERS013207	Mutreja <i>et al.</i> 2011
14.	A487(2)	ERS013199-O1Ban2007	Bangladesh	2007	-	1	ERS013199	Mutreja <i>et al.</i> 2011
15.	A483	ERS013198-O1Dji2007	Djibouti	2007	-	1	ERS013198	Mutreja <i>et al.</i> 2011
16.	6196	ERS013215-O1Ken2005	Kenya	2005	-	1	ERS013215	Mutreja <i>et al.</i> 2011
17.	6210	ERS013218-O1Ken2007	Kenya	2007	-	1	ERS013218	Mutreja <i>et al.</i> 2011
18.	6193	ERS013212-O1Ken2005	Kenya	2005	-	1	ERS013212	Mutreja <i>et al.</i> 2011
19.	6215	ERS013211-O1Ken2005	Kenya	2005	-	1	ERS013211	Mutreja <i>et al.</i> 2011
20.	6201	ERS013217-O1Ken2007	Kenya	2007	-	1	ERS013217	Mutreja <i>et al.</i> 2011
21.	6191	ERS013209-O1Ken2005	Kenya	2005	-	1	ERS013209	Mutreja <i>et al.</i> 2011
22.	6197	ERS013216-O1Ken2007	Kenya	2007	-	1	ERS013216	Mutreja <i>et al.</i> 2011
23.	6194	ERS013213-O1Ken2007	Kenya	2007	-	1	ERS013213	Mutreja <i>et al.</i> 2011
24.	6214	ERS013210-O1Ken2007	Kenya	2007	-	1§	ERS013210	Mutreja <i>et al.</i> 2011
25.	7682	ERS013220-O1Ken2009	Kenya	2009	-	1	ERS013220	Mutreja <i>et al.</i> 2011
26.	7687	ERS013226-O1Ken2009	Kenya	2009	-	1	ERS013226	Mutreja <i>et al.</i> 2011
27.	7686	ERS013225-O1Ken2009	Kenya	2009	-	1	ERS013225	Mutreja <i>et al.</i> 2011
28.	7685	ERS013224-O1Ken2009	Kenya	2009	-	1	ERS013224	Mutreja <i>et al.</i> 2011
29.	7684	ERS013221-O1Ken2009	Kenya	2009	-	1	ERS013221	Mutreja <i>et al.</i> 2011
30.	4646	ERS013237-O1Ind2007	India	2007	-	1	ERS013237	Mutreja <i>et al.</i> 2011
31.	4662	ERS013238-O1Ban2001	Bangladesh	2001	-	1§	ERS013238	Mutreja <i>et al.</i> 2011
32.	4519	ERS013239-O1Ind2005	India	2005	-	1	ERS013239	Mutreja <i>et al.</i> 2011
33.	4322	ERS013254-O1Ind2004	India	2004	-	1	ERS013254	Mutreja <i>et al.</i> 2011
34.	4642	ERS013255-O1Ind2006	India	2006	-	1	ERS013255	Mutreja <i>et al.</i> 2011
35.	4656	ERS013258-O1Ind2006	India	2006	-	1	ERS013258	Mutreja <i>et al.</i> 2011
36.	4675	ERS013259-O1Ban2001	Bangladesh	2001	-	1	ERS013259	Mutreja <i>et al.</i> 2011
37.	4679	ERS013260-O1Ban1999	Bangladesh	1999	-	1	ERS013260	Mutreja <i>et al.</i> 2011
38.	4663	ERS013261-O1Ban2001	Bangladesh	2001	-	1	ERS013261	Mutreja <i>et al.</i> 2011
39.	4661	ERS013263-O1Ban2001	Bangladesh	2001	-	1	ERS013263	Mutreja <i>et al.</i> 2011
40.	4538	ERS013269-O1Ind2007	India	2007	-	1	ERS013269	Mutreja <i>et al.</i> 2011
41.	4339	ERS013269-O1Ind2004	India	2004	-	1	ERS013270	Mutreja <i>et al.</i> 2011
42.	A488(1)	ERS013279-O1Ban2006	Bangladesh	2006	-	1	ERS013279	Mutreja <i>et al.</i> 2011
43.	A487(1)	ERS013281-O1Ban2007	Bangladesh	2007	-	1	ERS013281	Mutreja <i>et al.</i> 2011
44.	MJ116226	ERS013282-O1Ban1991	Bangladesh	1991	-	1	ERS013282	Mutreja <i>et al.</i> 2011
45.	6212	ERS013219-O1Ken2007	Kenya	2007	-	1§	ERS013219	Mutreja <i>et al.</i> 2011
46.	cp1038	SRX067358-O1Zim2009	Zimbabwe	2009	-	1	SRX067358	Katz <i>et al.</i> 2013
47.	cp1041	SRX067356-O1Zam2004	Zambia	2004	-	1	SRX067356	Katz <i>et al.</i> 2013
48.	cp1048	SRX067350-O1Ban2010	Bangladesh	2010	-	1	SRX067350	Katz <i>et al.</i> 2013
49.	cp1050	SRX067381-O1Ban2010	Bangladesh	2010	-	1	SRX067381	Katz <i>et al.</i> 2013
50.	hc-40a1	SRX049121-O1Hai2010	Haiti	2010	-	1	SRX049121	Katz <i>et al.</i> 2013
51.	hc-43a1	SRX049126-O1Hai2010	Haiti	2010	-	1	SRX049126	Katz <i>et al.</i> 2013
52.	hc-49a2	SRX049120-O1Hai2010	Haiti	2010	-	1	SRX049120	Katz <i>et al.</i> 2013
53.	vc-6	SRX082837-O1Nep2010	Nepal	2010	-	1	SRX082837	Katz <i>et al.</i> 2013
54.	vc-15	SRX082940-O1Nep2010	Nepal	2010	-	1	SRX082940	Katz <i>et al.</i> 2013
55.	vc-18	SRX082943-O1Nep2010	Nepal	2010	-	1	SRX082943	Katz <i>et al.</i> 2013
56.	vc-19	SRX082944-O1Nep2010	Nepal	2010	-	1	SRX082944	Katz <i>et al.</i> 2013
57.	2009V-1085	SRX249422-O1Sri2009	Sri Lanka (India)	2009	-	1	SRX249422	Katz <i>et al.</i> 2013
58.	2009V-1096	SRX249431-O1Ind2009	India	2009	-	1§	SRX249431	Katz <i>et al.</i> 2013
59.	2010EL-1749	SRX249463-O1Cam2010	Cameroon	2010	-	1§	SRX249463	Katz <i>et al.</i> 2013
60.	2009V-1131	SRX249462-O1Ind2009	India	2009	-	1§	SRX249462	Katz <i>et al.</i> 2013
61.	3554-08	SRX249691-O1Nep2008	Nepal	2008	-	1	SRX249691	Katz <i>et al.</i> 2013
62.	2011EL-1137	SRX249661-O1Saf2009	South Africa	2009	-	1	SRX249661	Katz <i>et al.</i> 2013
63.	2009V-1046	SRX249421-O1Pak2009	Pakistan	2009	-	1§	SRX249421	Katz <i>et al.</i> 2013
64.	2009V-1116	SRX249461-O1Pak2009	Pakistan	2009	-	1§	SRX249461	Katz <i>et al.</i> 2013
65.	2010V-1014	SRX249467-O1Pak2010	Pakistan	2010	-	1§	SRX249467	Katz <i>et al.</i> 2013
66.	3582-05	SRX249692-O1Pak2005	Pakistan	2005	-	1	SRX249692	Katz <i>et al.</i> 2013
67.	3500-05	SRX249663-O1Ind2005	India	2005	-	1	SRX249663	Katz <i>et al.</i> 2013
68.	3546-06	SRX249690-O1Ind2006	India	2006	-	1	SRX249690	Katz <i>et al.</i> 2013
69.	2011EL-1938	SRX298898-O1Ind2009	India	2009	-	1	SRX298898	Katz <i>et al.</i> 2013
70.	2011EL-1939	SRX298922-O1Ind2009	India	2009	-	1	SRX298922	Katz <i>et al.</i> 2013
71.	2011EL-1141	SRX298934-O1Afg2008	Afghanistan	2008	-	1	SRX298934	Katz <i>et al.</i> 2013
72.	2011EL-1941	SRX298945-O1Ind2010	India	2010	-	1	SRX298945	Katz <i>et al.</i> 2013
73.	vc-14	SRX082939-O1Nep2010	Nepal	2010	-	1*	SRX082939	Katz <i>et al.</i> 2013
74.	vc-25	SRX082948-O1Nep2010	Nepal	2010	-	1*	SRX082948	Katz <i>et al.</i> 2013
75.	MG116025	ERS013135-O1Ban1991	Bangladesh	1991	-	1†	ERS013135	Mutreja <i>et al.</i> 2011
76.	4784	ERS013235-O1Tan2009	Tanzania	2009	-	1†	ERS013235	Mutreja <i>et al.</i> 2011

77.	MJ-1236	ICEVchBan9-O1Ban1994	Bangladesh	1994	ICEVchBan9	2	CP001485	Wozniak <i>et al.</i> 2009
78.	B33	ICEVchMoz10-O1Moz2004	Mozambique	2004	ICEVchMoz10	2	ACHZ00000000	Wozniak <i>et al.</i> 2009
79.	MJ1485	ERS013126-O1Ban1994	Bangladesh	1994	-	2	ERS013126	Mutreja <i>et al.</i> 2011
80.	A346(2)	ERS013202-O1Ban1994	Bangladesh	1994	-	2	ERS013202	Mutreja <i>et al.</i> 2011
81.	A346(1)	ERS013278-O1Ban1994	Bangladesh	1994	-	2	ERS013278	Mutreja <i>et al.</i> 2011
82.	1362	ERS013241-O1Moz2005	Mozambique	2005	-	2†	ERS013241	Mutreja <i>et al.</i> 2011
83.	1627	ERS013242-O1Moz2005	Mozambique	2005	-	2†	ERS013242	Mutreja <i>et al.</i> 2011
84.	1346	ERS013265-O1Moz2005	Mozambique	2005	-	2†	ERS013265	Mutreja <i>et al.</i> 2011
85.	4585	ERS013232-O1Ind2007	India	2007	ICEVchInd6	3	ERS013232	Mutreja <i>et al.</i> 2011
86.	4552	ERS013233-O1Ind2007	India	2007	-	3	ERS013233	Mutreja <i>et al.</i> 2011
87.	4122	ERS013264-O1Vie2007	Vietnam	2007	-	3	ERS013264	Mutreja <i>et al.</i> 2011
88.	4488	ERS013234-O1Ind2006	India	2006	-	3	ERS013234	Mutreja <i>et al.</i> 2011
89.	4600	ERS013236-O1Ind2007	India	2007	-	3	ERS013236	Mutreja <i>et al.</i> 2011
90.	4536	ERS013240-O1Ind2007	India	2007	-	3	ERS013240	Mutreja <i>et al.</i> 2011
91.	4605	ERS013257-O1Ind2007	India	2007	-	3	ERS013257	Mutreja <i>et al.</i> 2011
92.	4551	ERS013266-O1Ind2007	India	2007	-	3	ERS013266	Mutreja <i>et al.</i> 2011
93.	4623	ERS013267-O1Ind2007	India	2007	-	3	ERS013267	Mutreja <i>et al.</i> 2011
94.	4593	ERS013268-O1Ind2007	India	2007	-	3	ERS013268	Mutreja <i>et al.</i> 2011
95.	cp1042	SRX067370-O1Tha2010	Thailand	2010	-	3	SRX067370	Katz <i>et al.</i> 2013
96.	vc-8	SRX082839-O1Nep2010	Nepal	2010	-	3	SRX082839	Katz <i>et al.</i> 2013
97.	vc-9	SRX082840-O1Nep2010	Nepal	2010	-	3	SRX082840	Katz <i>et al.</i> 2013
98.	4672	ERS016137-O1Ban2000	Bangladesh	2000	ICEVchBan11	4	ERS016137	Mutreja <i>et al.</i> 2011
	V. cholerae O139							
99.	MO10	SXT-O139Ind1992	India	1992	SXT	5	AY055428	Waldor <i>et al.</i> 1996
100.	AS207	ICEVchInd4-O139Ind1997	India	1997	ICEVchInd4	5	GQ463141	Wozniak <i>et al.</i> 2009
101.	A330	ERS013124-O139Ind1993	India	1993	-	5	ERS013124	Mutreja <i>et al.</i> 2011
102.	A383	ERS013125-O139Ban2002	Bangladesh	2002	-	5†	ERS013125	Mutreja <i>et al.</i> 2011
	V. cholerae non O1/non-O139							
103.	1-010118-075	ICEVchMex1-nonO1/O139Mex2001	Mexico	2001	ICEVchMex1	ND	GQ463143	Burrus <i>et al.</i> 2006
104.	HC1-A2	ICEVchHai2-nonO1/O139Hai2010	Haiti	2010	ICEVchHai2	ND	AJRO01000008	Ceccarelli <i>et al.</i> 2013
	Non Vibrio species							
105.	<i>P. rettgeri</i>	R391-PrettgeriSaf1967	South Africa	1967	R391	ND	AY090559	Coetsee <i>et al.</i> 1973
106.	<i>P. alcalifaciens</i>	ICEPalBan1-PalcalifaciensBan1999	Bangladesh	1999	ICEPalBan1	ND	GQ463139	Hochhut <i>et al.</i> 2001
107.	<i>S. putrefaciens</i> W3-18-1	ICESpuPO1-SputrefaciensPO2000	Pacific Ocean	2000	ICESpuPO1	ND	CP000503	Pembroke <i>et al.</i> 2006
108.	<i>P. mirabilis</i> HI-4320	ICEPmiUsa1-PmirabilisUsa1986	USA	1986	ICEPmiUsa1	ND	AM942759	Wozniak <i>et al.</i> 2009
109.	<i>P. damsela</i> PC554.2	ICEPdaSpa1-PdamselaSpa2003	Spain	2003	ICEPdaSpa1	ND	AJ870986	Osorio <i>et al.</i> 2008
110.	<i>V. fluvialis</i> H-08942	ICEVflInd1-VfluvialisInd2002	India	2002	ICEVflInd1	ND	GQ463144	Ahmed <i>et al.</i> 2005

#Numbers refer to ICEs assigned to a specific profile. Reference ICEs of the corresponding groups have ICE names in bold according to the ICE nomenclature: 1, **ICEVchInd5/ICEVchBan5**; 2, **ICEVchMoz10/ICEVchBan9**; 3, **ICEVchInd6**; 4, **ICEVchBan11**; 5, **SXT/ICEVchInd4**; 6, **ICEVchMex1**; and 7, **ICEVchHai2**.

*Deletion from *rumA* to *traI*, lacking *s024*, *s025*, *s026* backbone genes, the entire genetic cluster located in Hotspot 5 in **ICEVchInd5**, and part of *traI* gene (see also Gap 2, Figure 1);

† Complete deletion of the antibiotic resistance cluster comprising genes *floR*, *strB*, and *sul2* (see also Gap 1, Figure 1);

§ Removed from the 71 **ICEVchInd5** ICEs alignment after testing for cryptic recombination

ND, Not Determined.

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