

**Table S2.** Strains and plasmids used in this study.

Strain or plasmid	Description	Source or reference
<u><i>E. coli</i> strains</u>		
DH5 $\alpha$	F <sup>-</sup> $\lambda$ <i>recA1 hsdR17 endA1 supE44 thi-1 relA1 gyrA96</i> $\Delta$ ( <i>argF-lacZYA</i> ) U169 $\phi$ 80 <i>dlacZ</i> $\Delta$ M15) (Recipient for cloning experiments)	(57)
BL21(DE3)	F <sup>-</sup> <i>ompT hsdS</i> ( <sub>r<sub>B</sub></sub> m <sub>B</sub> <sup>-</sup> ) <i>gal dcm</i> $\lambda$ (DE3) (Host for overproduction of proteins)	Novagen
$\beta$ 3914	$\beta$ 2163 <i>gyrA462 zei-298::Tn10</i> (Km <sup>r</sup> Em <sup>r</sup> Tc <sup>r</sup> ) (Recipient for conjugational transfer of pSW7848)	(49)
DHM1	F <sup>-</sup> , <i>cya-854, recA1, endA1, gyrA96</i> ( <i>Nal</i> <sup>r</sup> ), <i>thi1, hsdR17, spoT1, rfbD1, glnV44</i> (AS). (Host for bacterial two-hybrid (BACTH) assay)	(58)
<u><i>V. alginolyticus</i> strains</u>		
138-2	wild-type (Pof <sup>+</sup> , Laf <sup>+</sup> )	(59)
VIO5	Rif <sup>r</sup> Pof <sup>+</sup> Laf <sup>-</sup>	(60)
NMB191	VIO5 $\Delta$ <i>pomAB</i>	(61)
ZSW1	VIO5 $\Delta$ <i>fliL</i> <sup>P</sup>	(25)
ZSW2	VIO5 $\Delta$ <i>pomAB</i> $\Delta$ <i>fliL</i> <sup>P</sup>	(25)
YM19	138-2 Pof <sup>-</sup> , Laf <sup>+</sup>	(30)
NMB342	YM19 $\Delta$ <i>fliL</i> <sup>L</sup>	This study
NMB338	138-2 $\Delta$ <i>fliL</i> <sup>P</sup>	This study
NMB339	138-2 $\Delta$ <i>fliL</i> <sup>L</sup>	This study
NMB340	138-2 $\Delta$ <i>fliL</i> <sup>P</sup> $\Delta$ <i>fliL</i> <sup>L</sup>	
<u>Plasmids</u>		
pColdI	Amp <sup>r</sup> P <sub>cspA</sub> (Cold shock expression vector)	Takara
pZSW4	pColdI- <i>fliL</i> <sup>P</sup> <sub>Peri</sub> (from Met40 to stop codon)	(25)
pSW7848	Suicide vector (oriVR6K $\gamma$ oriTRP4 <i>araC</i> -P <sub>BAD</sub> - <i>ccdB</i> ), Cm <sup>r</sup>	(49)
pZSW9	pSW7848- $\Delta$ <i>fliL</i> <sup>L</sup>	This study
pBAD33	Cm <sup>r</sup> P <sub>BAD</sub>	(62)
pZSW6	pBAD33- <i>his6-egfp-fliL</i> <sup>P</sup>	(25)

pZSW81	pBAD33/ <i>his6-egfp-fliL<sup>P</sup> pomApomB</i>	(47)
pZSW91	pBAD33- <i>his6-fliL<sup>L</sup></i>	This study
pEVOL- <i>pBpF</i>	Plasmid encodes an orthogonal <i>pBpa</i> -specific suppressor tRNA/aminoacyl tRNA synthetase pair, Cm <sup>r</sup>	(63)
pET15b	Amp <sup>r</sup> P <sub>T7</sub>	Novagen
pNT70	pET15b- <i>his6-fliL<sup>P</sup> pomApomB</i> (whose amber codon in <i>fliL<sup>P</sup></i> was replaced with ochre codon)	This study
pKT25	Km <sup>r</sup> , T25-X (BACTH vector for protein fusion at the C-terminal end of T25 domain of CyaA)	(56)
pUT18C	Amp <sup>r</sup> , T18-X (BACTH vector for protein fusion at the C-terminal end of T18 domain of CyaA)	(56)

Km<sup>r</sup>, kanamycin resistant; Em<sup>r</sup>, erythromycin resistant; Tc<sup>r</sup>, tetracycline resistant; Rif<sup>r</sup>, rifampicin resistant; Amp<sup>r</sup>, ampicillin resistant; Cm<sup>r</sup>, chloramphenicol resistant; Pof<sup>+</sup>, normal polar flagellar formation; Laf<sup>+</sup>, normal lateral flagellar formation; Pof<sup>-</sup>, defective in polar flagellar formation; Laf<sup>-</sup>, defective in lateral flagellar formation; *fliL<sup>P</sup>*, polar *fliL*; *fliL<sup>L</sup>*, lateral *fliL*; P<sub>*cspA*</sub>, cold-shock promoter; P<sub>*BAD*</sub>, arabinose promoter. pEVOL-*pBpF* was a gift from Prof. Peter G. Schultz (Addgene plasmid #31190; <http://n2t.net/addgene:31190>; RRID:Addgene\_31190).

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