

Table S1. Strains and plasmids used in this study

Strain	Relevant properties	Source or Reference
<i>E. coli</i>		
DH5 α	Host for cloning and plasmid amplification	Bethesda Research Laboratories
DH5 α / λ pir	Host for cloning Tn5 insertion sites; Φ 80dlacZ Δ M15 Δ (lacZYA-argF) U169 recA1 hsdR17 deoR thi-1 supE44 gyrA96 relA1/ λ pir	(70)
S17-1	Donor for conjugation; C600::RP-4 2-(Tc::Mu) (Kn::Tn7) thi pro hsdR recA Tra ⁺	(71)
BW20767	Donor for conjugation; RP-2-Tc::Mu-1 kan::Tn7 integrant leu-63::IS10 recA1 zbf-5 creB510 hsdR17 endA1 thi uidA (Δ MluI)::pir+	(72)
<i>R. sphaeroides</i>		
2.4.1	Wild-type strain	(73)
Δ 0382 (parent strain)	Δ RSP0382 in 2.4.1	(20)
HLM01	Δ 0382 with Tn5 insertion at Chr1: 1,471,645; Km ^R	This study
HLM02	Δ 0382 with Tn5 insertion at Chr1: 1,469,665; Km ^R	This study
HLM03	Δ 0382 with Tn5 insertion at Chr2: 274,987; Km ^R	This study
HLM04	Δ 0382 with Tn5 insertion at Chr1: 2,814,885; Km ^R	This study
HLM05	Δ 0382 with Tn5 insertion at Chr1: 2,970,757; Km ^R	This study
HLM06	Δ 0382 with Tn5 insertion at Chr2: 938,456; Km ^R	This study
HLM07	Δ 0382 with Tn5 insertion at Chr1: 2,086,261; Km ^R	This study
HLM08	Δ 0382 with Tn5 insertion at Chr1: 1,189,239; Km ^R	This study
HLM08b	Same as HLM08, isolated independently from screen	This study
HLM09	Δ 0382 with Tn5 insertion at Chr1: 1,395,725; Km ^R	This study
HLM10	Δ 0382 with Tn5 insertion at Chr1: 916,649; Km ^R	This study
KL116	HLM02 carrying plasmid pKCL22 to express Myc-tagged NtrX; Km ^R , Sp ^R	This study
Δ NrtYX Δ 0382	Δ RSP2839, Δ RSP2840, Δ RSP0382 in 2.4.1	This study
Δ ChrR Δ NrtYX Δ 0382	Δ chrR-1::dfr, Δ RSP2839, Δ RSP2840, Δ RSP0382 in 2.4.1.	This study
Plasmids		
pRL27	Tn5-RL27 delivery vector (Km ^R -oriR6 K)	(61)
pK18mobsacb	Broad host range mobilizable vector; Km ^R oriV oriT mob sacB	(68)
pKCL20	5,939-bp <i>R. sphaeroides</i> genomic region containing RSP2839 and RSP2840 cloned into the XbaI and HindIII sites of pK18mobsacB; Km ^R	This study
pKCL21	pKCL20 with RSP2839 and RSP2840 deleted; Km ^R	This study
pJDN27	pSUP202-derived suicide plasmid that creates an insertion of Tp ^R gene into a deletion of chrR gene	(69)
pIND5-myc	Expression vector with IPTG-inducible promoter, includes 3X myc tag; Sp ^R	(74)
pKCL22	N-terminally 3X myc tagged ntrX (RSP 2840) cloned into BamHI and HindIII sites of pIND5-myc; Sp ^R	This study