

Table S1 Strains and plasmids used in this study

Strain(s) or Plasmid	Genotype or Phenotype	Source or Reference
<i>E. coli</i> strains		
DH5α		Lab stock
DH5α-pUCP20- <i>ptrA</i>	DH5α carrying pUCP20- <i>ptrA</i> plasmid	This study
<i>P. aeruginosa</i> strains		
PAO1 Wild type		Lab stock
PAO1-pUCP-Red	PAO1 carrying pUCP-Red plasmid; Car ^r	This study
PAO1(Δ <i>ptrA</i>)	<i>ptrA</i> replacement mutant of PAO1; Gm ^r	This study
PAO1(Δ <i>ptrA</i> -p- <i>ptrA</i>)	PAO1(Δ <i>ptrA</i> ::Gm) complementation strain carrying pUCP20- <i>ptrA</i> plasmid; Car ^r	This study
PAO1-pUCP20	PAO1 carrying pUCP20 plasmid; Car ^r	This study
PAO1(Δ <i>ptrA</i>)-pUCP20	PAO1(Δ <i>ptrA</i>) carrying pUCP20 plasmid; Car ^r	This study
Plasmids		
pJQ200SK	Gm ^r plasmid	Lab stock
pUCP-Red	pUCP plasmid carrying Red recombinase gene (containing <i>exo</i> , <i>bet</i> and <i>gam</i> genes regulated by arabinose promoter); Car ^r	1
pUCP20	Car ^r	2
pUCP20- <i>ptrA</i>	<i>ptrA</i> gene insertion in pUCP20 plasmid; Car ^r	This study

1. Xu X, Yu H, Zhang D, et al. Role of ppGpp in *Pseudomonas aeruginosa* acute pulmonary infection and virulence regulation. *Microbiol Res.* Nov 2016;192:84-95. doi:10.1016/j.micres.2016.06.005

2. Li K, Yang G, Debru AB, et al. SuhB Regulates the Motile-Sessile Switch in *Pseudomonas aeruginosa* through the Gac/Rsm Pathway and c-di-GMP Signaling. *Front Microbiol.* 2017;8:1045. doi:10.3389/fmicb.2017.01045

Table S2 PCR and quantitative real-time PCR (qRT-PCR) primers used in this study.

Gene	Sequence	Template	Restriction enzymesite
<i>ptrA</i> Knockout Up-F	ATGCAAGCTTGGTTGAACTCGTGC AACAGC	PAO1 genome	<i>Hind</i> III
<i>ptrA</i> Knockout Up-R	gcaaccttgggcagcagcGGACAAGGAAA ACTGCTGATCG		
Gm ^r -F	GCTGCTGCCCAAGGTTGC	pJQ200SK plasmid	
Gm ^r -R	CCGATCTCGGCTTGAACGA		
<i>ptrA</i> Knockout Down-F	tcgttcaagccgagatcggGCAGTGAAGGT ACGCATGG	PAO1 genome	<i>EcoR</i> I
<i>ptrA</i> Knockout Down-R	GCTAGAATTCCGCAGCAAATCGA GTTTCGAG		
<i>ptrA</i> complementary verification-F	GGGGCGAGGACCAGCAGG	PAO1 genome	
<i>ptrA</i> complementary verification-R	CACCGGTACGGTCATCCCG		
Red-F	ATTATGACAACTTGACGGCTAC	pUCP-Red plasmid	
Red-R	TTCTTCGTCTGTTTCTACTGG		
qRT-PCR primers			
<i>exoS</i> -F	CTCTACACCGGCATTCATA	PAO1 genome	
<i>exoS</i> -R	CTTCACTACCTGTTTCAGCCT		
<i>exoT</i> -F	CATCTCAGCAGAACCCGTC	PAO1 genome	

<i>exoT</i> -R	CTCGATGATCGCCACGAAGG	
<i>exsA</i> -F	CTGGCGAGTTGCTTTTCGTC	PAO1 genome
<i>exsA</i> -R	ACGCTCGACTTCACTCAACA	
<i>lasA</i> -F	CTACAGCATCAACCCGAAAG	PAO1 genome
<i>lasA</i> -R	TAGCGCCGCGACAAC	
<i>lasB</i> -F1	GTTCTATCCGCTGGTGTGCG	PAO1 genome
<i>lasB</i> -R1	CGCTGCCCTTCTTGATG	
<i>rhlA</i> -F2	GGCGATCGGCCATCT	PAO1 genome
<i>rhlA</i> -R2	AGCGAAGCCATGTGCTGAT	
<i>rhlB</i> -F	AAGCGCATCTTCACCCAGT	PAO1 genome
<i>rhlB</i> -R	TGGCATAGAAGTCTCCCTGC	
<i>pqsA</i> -F	GACCGGCTGTATTCGATTC	PAO1 genome
<i>pqsA</i> -F	GCTGAACCAGGGAAAGAAC	
<i>pqsE</i> -F	GATGATGACCTGTGCCTGTT	PAO1 genome
<i>pqsE</i> -R	CGCCCAAACCAATTCGGCAT	
<i>gacA</i> -F	GTCTTCGGCGACAGGCAC	PAO1 genome
<i>gacA</i> -R	CTGAAGTCCTTCCAGCCG	
<i>rsmA</i> -F	ATGCTGATTCTGACTCGTC	PAO1 genome
<i>rsmA</i> -R	GGATGCGCTGGTAAATTC	
<i>rsmY</i> -F	AGGACATTGCGCAGGAAG	PAO1 genome

<i>rsmY</i> -R	TTTTGGGCGGGGTTTTGCA	
<i>rsmZ</i> -F	CGTACAGGGAACACGCAAC	PAO1 genome
<i>rsmZ</i> -R	GTATTACCCCGCCCACTCTT	
<i>16S rRNA</i> -F	GAGGAAGGTGGGGATGACGT	PAO1 genome
<i>16S rRNA</i> -F	AGGCCCGGGAACGTATTCAC	
