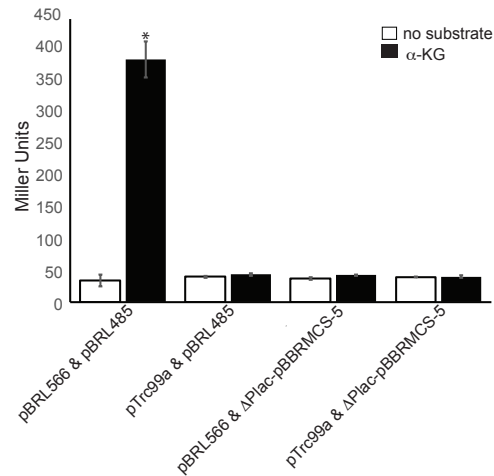


1 **MifS, a DctB-family histidine kinase, is a specific regulator of α -ketoglutarate response in**
2 ***Pseudomonas aeruginosa* PAO1**

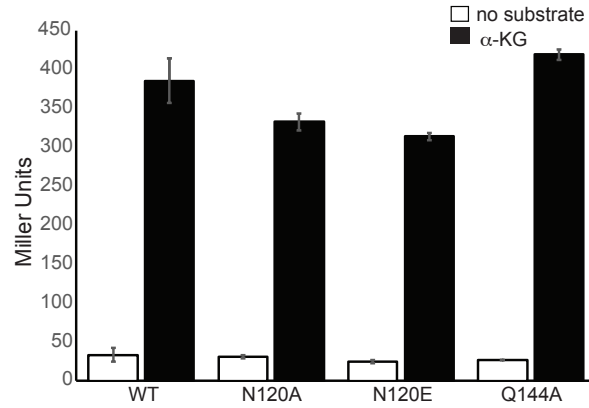
3 Authors: Zaara Sarwar, Michael X. Wang, Benjamin R. Lundgren, and Christopher T. Nomura

4
5 **Supplementary Data**



6
7 **Supplementary Data Figure S1.** *E. coli* TOP10 cells harbouring plasmids pBRL566 for the
8 expression of wildtype MifS/MifR and pBRL485 containing the $P_{PA5530}::lacZ$ reporter, the empty
9 plasmid pTrc99a and plasmid pBRL485, plasmid pBRL566 and the empty plasmid $\Delta Plac$ -
10 pBBR1MCS-5, or empty plasmids pTrc99a and $\Delta Plac$ -pBBR1MCS-5 were grown in LB to an
11 OD_{600} of ~ 0.3 and then challenged with 20 mM α -KG or no substrate. Data points represent mean
12 values \pm the standard deviations ($n = 3$). Analysis of variance was performed by using Dunnett's
13 *post hoc* test (α value of 0.05) to identify significant differences ($P < 0.0001$; marked with an
14 asterisk).

15



16

17 **Supplementary Data Figure S2.** Wildtype MifS, or a MifS variant with a mutation in a residue

18 adjacent to the predicted binding pocket (MifSN120A, MifSN120E, or MifSQ144A) was

19 expressed in *E. coli* cells harbouring the *mifR* gene and the $P_{PA5530}::lacZ$ reporter. Cells were

20 grown in LB media to an optical density at 600 nm (OD_{600}) value of 0.3. They were then

21 challenged with α -KG or no substrate allowed to grow for an additional 60 minutes post

22 induction. Data points represent mean values \pm the standard deviations ($n = 3$). Analysis of

23 variance was performed by using Dunnett's *post hoc* test (α value of 0.05) to identify significant

24 differences ($P < 0.0001$).

25