**SUPPLEMENT**

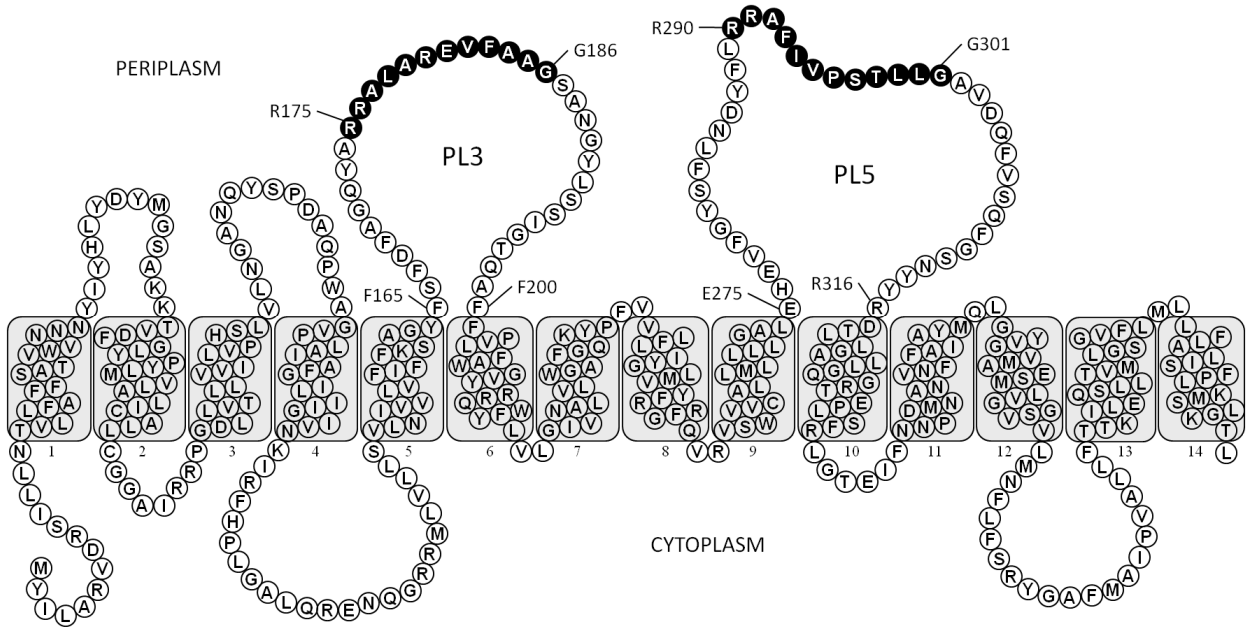


**Figure S1. Experimentally-derived topology map for Wzy from *P. aeruginosa* PAO1.** $RX_{10}G$ motifs have been highlighted in PL3 and PL5. TMS have been numbered accordingly from 1 – 14. Adapted from Islam *et al.* (2010) *mBio* **1**, e00189-10.

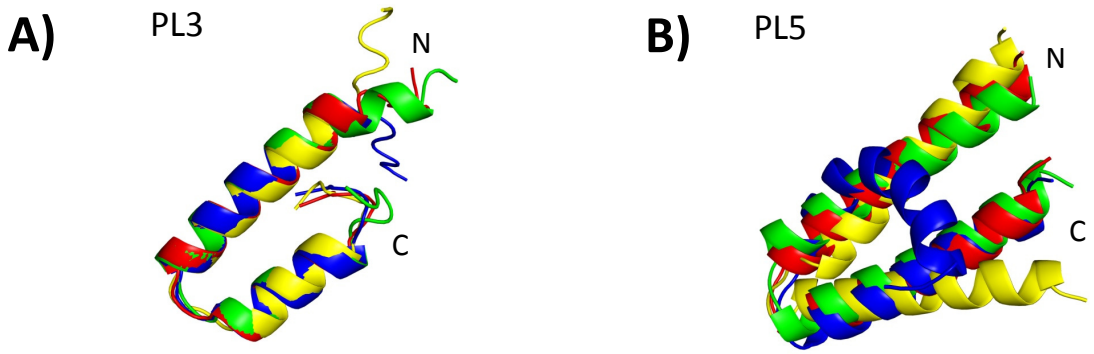


**Figure S2. Top I-TASSER 3D model predictions for PL3 and PL5 from Wzy of *P. aeruginosa* PAO1.** Four (of the top five) predictions for PL3 and PL5 have been superimposed using PyMol, with each of the four models indicated from highest to lowest confidence in red, green, blue, and yellow. The N and C termini have been indicated for each set of predictions. ***A*)** PL3 models. ***B*)** PL5 models.

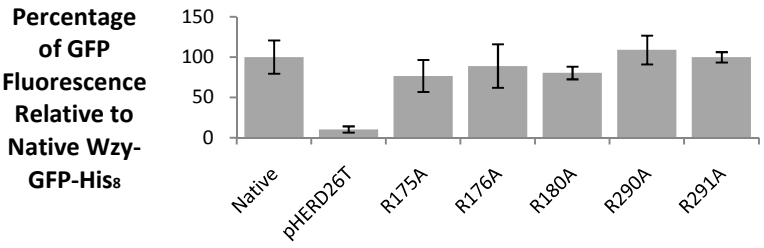


**Figure S3: Densitometry analysis of GFP fluorescence from membrane fractions of *P. aeruginosa* PAO1 Δ*wzy* expressing native and mutant Wzy-GFP-$His_8$ constructs.** Fluorescence of full-length Wzy-GFP-$His_8$ native and mutant constructs was analyzed in quadruplicate and displayed ± standard deviation. Results are representative of three independent sample sets.

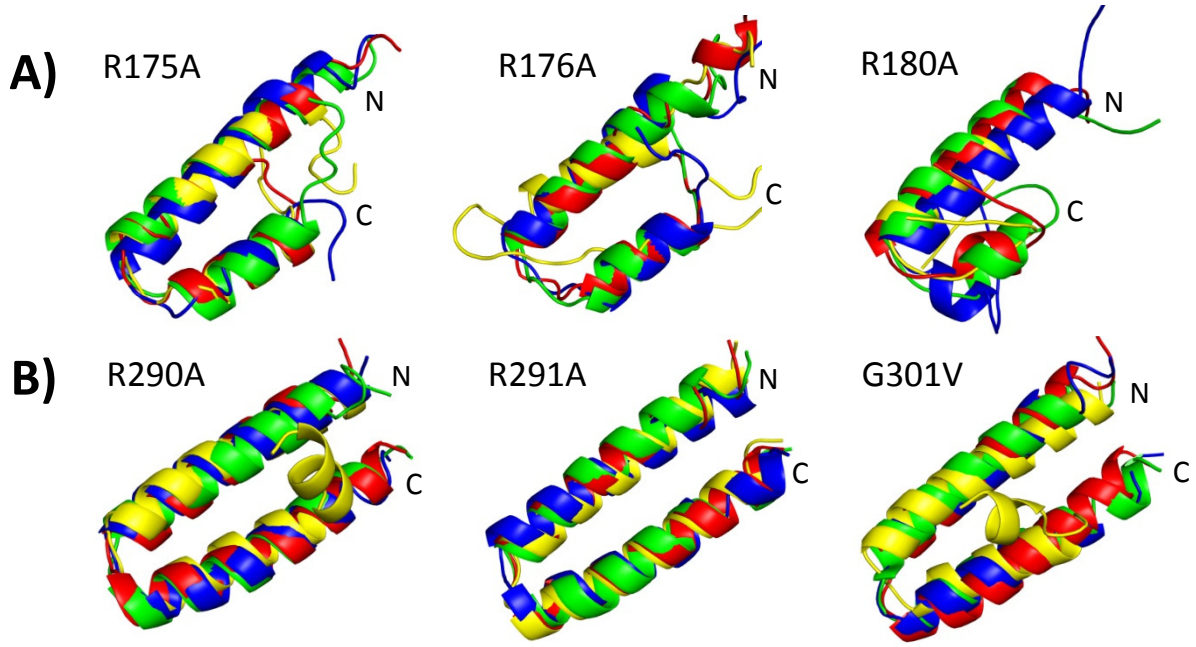


**Figure S4. Top I-TASSER 3D model predictions for PL3 and PL5 Wzy mutants with demonstrated functional importance.** Four (of the top five) predictions for the PL3 and PL5 mutants have been superimposed using PyMol, with each of the four models indicated from highest to lowest confidence in red, green, blue, and yellow. The N and C termini have been indicated for each set of predictions. ***A*)** PL3 mutants. ***B*)** PL5 mutants.

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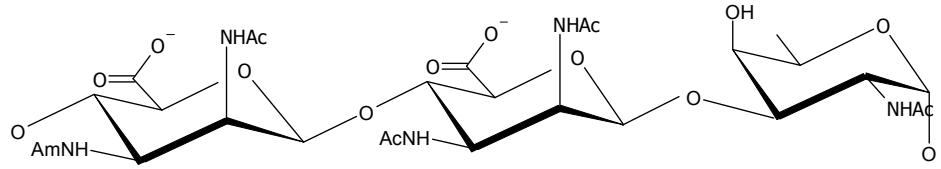


→4)-β-D-ManNAc3NAmA-(1→4)-β-D-ManNAc3NAcA-(1→3)-β-D-FucNAc-(1→

**Figure S5. Structure of the B-band O-Ag repeat unit in *P. aeruginosa* PAO1 (serotype O5).** The presence of two mannuronic acid sugars greatly contributes to the overall negative charge of each repeat unit. Image courtesy of Dr. Wayne Miller. The composition of B-band O-Ag repeats between different serotypes of *P. aeruginosa* is reviewed in Knirel *et al.* (2009) *J. Endotoxin Res.* **12,** 324-336.