Supplementary Information

FrpA is the outer membrane piscibactin transporter in *Vibrio anguillarum*: structural elements in synthetic piscibactin analogues required for transport

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Table S1: Strains and plasmids used in this work.

Strain	Relevant characteristics	Source
V. anguillarum		
MB14	RV22 with in-frame deletion of *vabF* gene RV22 Δ*vabF*	Balado *et. al*., 2006[1]
MB67	RV22 with in-frame deletion of *vabD* gene RV22 Δ*vabD*	Balado *et. al.*, 2008[2]
ML208	RV22 with in-frame deletion of *vabF* and *frpA* genes RV22 Δ*vabF*Δ*frpA*	This study
ML210	RV22 with in-frame deletion of *vabD* and *frpA* genes RV22 Δ*vabD*Δ*frpA*	This study
Photobacterium damselae* subsp. *piscicida		
DI21	Piscibactin producer strain	Toranzo *et. al*.[3]
E. coli		
DH5α	Cloning strain	Laboratory strain
S17-1- *λpir*	RP4 (Km::Tn7, Tc::Mu-1) *pro-82 λpir recA1 end A1 thiE1* *hsdR17 creC510*	Herrero et. al. [4]
Plasmids		
pWKS30	Low-copy number cloning vector, Amp^r	Wang and Kushner [5]
pNidKan	Suicide vector derived from pCVD442, Kan^r	Mouriño *et. al*.[6]
pML257	S17 λpir pSEVA 651 frpA comp	This study

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[3] Toranzo, A. E.; Barreiro, S.; Casal, J. F.; Figueras, A.; Magariños, B.; Barja, J. L. Pasteurellosis in cultured gilthead seabream (*Sparus aurata*): first report in Spain. Aquaculture **1991**, *99*, 1–15. doi: 10.1016/0044-8486(91)90284-E.

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Table S2: Oligonucleotides used for construction of *frpA*-defective mutants by allelic exchange and oligonucleotides complementation. Underlined sequences denote restriction sites.

Oligonucleotide	Sequence (5' → 3')	Amplicon Size (bp)
***frpA* mutant construction**		
1_FrpAang_XbaI	CGCTCTAGAGGCAGCACTCAACAACAAGG	750
2_FrpAang_BamHI	GCGGGATCCGAGTGCGAAAGCGGTTGAAG	
3_FrpAang_BamHI	CCGGGATCCAACCTATTCGTTCGCAATGC	750
4_FrpAang_4_XhoI	GCGCTCGAGGCTTTCAGAGATGGATGGTG	
***frpA* complementation**		
1_FrpAang_comp_F_XbaI	CGCTCTAGACTCAGCGCAGAAATCTACAC	2570
2_FrpAang_comp_R_BamHI	GGCGGATCCAGAGACGCCTTCTGAACGCA	