

Supplementary Table S2: Strains used in this study

Strain	Description	Source or reference
<i>Escherichia coli</i>		
DH5 α	F ⁺ <i>supE44</i> Δ <i>lacU169</i> (Φ 80 <i>lacZDM15</i>) <i>hsdR17</i> <i>recA1</i> <i>endA1</i>	Invitrogen, life technologies, Darmstadt
WM3064	<i>gyrA96</i> <i>thi-1</i> <i>relA1</i> <i>thrB1004</i> <i>pro</i> <i>thi</i> <i>rpsL</i> <i>hsdS</i> <i>lacZAM15</i> <i>RP4-1360</i> Δ (<i>araBAD</i>)567 Δ <i>dapA1341::[erm pir]</i>	W. Metcalf, unpublished
BW29427	DAP auxotroph derivative of <i>E. coli</i> strain B2155	K. Datsenko and B. L. Wanner, unpublished
<i>Magnetospirillum gryphiswaldense</i>		
<i>M. gryphiswaldense</i> MSR-1 R3/S1	Rif ^R , Sm ^R spontaneous mutant, lab strain	D. Schultheiss, <i>et al.</i> , 2003
<i>M. gryphiswaldense</i> Δ <i>mamJ</i>	Δ <i>mamJ</i>	A. Scheffel, <i>et al.</i> , 2006
<i>M. gryphiswaldense</i> Δ <i>mamM</i>	Δ <i>mamM</i>	R. Uebe, <i>et al.</i> , 2011
<i>M. gryphiswaldense</i> Δ <i>cheW</i> ₁	Δ <i>cheW</i> ₁	this study
<i>M. gryphiswaldense</i> MSR-1 FP66	in frame fusion of <i>egfp</i> to <i>cheW</i> ₁	this study
<i>M. gryphiswaldense</i> Δ <i>cheW</i> ₁ (pJH01)	Δ <i>cheW</i> ₁ complemented with p JH01	this study
<i>M. gryphiswaldense</i> MSR-1 JH5	FP66 transposon mutant with inserted <i>maggbp</i> from P _{mamDC45} , Km ^R	this study
<i>M. gryphiswaldense</i> MSR-1 JH6	FP66 transposon mutant with inserted <i>mamC-maggbp</i> from P _{mamDC45} , Km ^R	this study
<i>M. gryphiswaldense</i> MSR-1 JH7	FP66 transposon mutant with inserted <i>mamC-maggbp-gbp</i> from P _{mamDC45} , Km ^R	this study
<i>M. gryphiswaldense</i> MSR-1 JH8	FP66 transposon mutant with inserted <i>mamC-mCherry-maggbp</i> from P _{tet} , Km ^R	this study
<i>M. gryphiswaldense</i> MSR-1 JH9	FP66 transposon mutant with inserted <i>mamC-maggbp-gbp</i> from P _{tet} , Km ^R	this study

<i>M. gryphiswaldense</i> MSR-1 JH10	FP66 transposon mutant with inserted <i>mamC-maggbp-gbp-maggbp</i> from P _{tet} , Km ^R	this study
<i>M. gryphiswaldense</i> MSR-1 JH11	Δ <i>mamJ</i> with inframe fusion of <i>egfp</i> to <i>cheW₁</i>	this study
<i>M. gryphiswaldense</i> MSR-1 JH12	JH11 transposon mutant with inserted <i>mamC-maggbp</i> from P _{mamDC45} , Km ^R	this study
<i>M. gryphiswaldense</i> MSR-1 JH13	Δ <i>mamM</i> with inframe fusion of <i>egfp</i> to <i>cheW₁</i>	this study
<i>M. gryphiswaldense</i> MSR-1 JH14	JH13 transposon mutant with inserted <i>mamC-maggbp-gbp</i> from P _{mamDC45} , Km ^R	this study
