

Suppl. Table S2. The iron regulon in Rhodobacteraceae

Locus ID	Operon	Position	Score	Iron-Rhodo-box	Function
<b>Rhodobacter sphaeroides</b>					
RSP_6006	<i>hmuP-irpA -bfd-bfr</i>	-199	4.53	TCcGACTgATTcAGTCAcc	hemin uptake protein, iron-regulated protein A, ferredoxin, bacterioferritin
RSP_3416	<i>fecBCDE</i>	-156	4.43	TCcGACTgtTcTtGTCgGA	iron(III) dicitrate ABC transporter
RSP_3417	<i>OMP1</i>	-289	4.43	TCcGACaAgAacAGTCgGA	TonB-dependent siderophore receptor
RSP_2913	<i>fbpA</i>	-81	4.38	gtTGACTgATagAcTCAGc	ferric cations ABC transporter
RSP_1545	<i>RSP_1545-1544-1543</i>	-64	4.33	TCcGAtTgAAagAcTCgGg	thiol oxidoreductase, periplasmic protein, hypothetical protein
RSP_0443	<i>iscR -sufSBCD</i>	-120	4.22	ctTGACaAAAacgcTCgGA	Fe-S cluster assembly
Rsph03003247	<i>fecI-fecR</i>	-69	4.16	gCcGAgcgATaTtGTCgGg	iron transport sigma factor and sensor
RSP_0920	<i>exbB-exbD-tonB</i>	-133	<u>3.97</u>	ctTGACTgtTTTcGTaAac	components for TonB-dependent iron transporters
<b>Rhodobacter capsulatus</b>					
RRC03231	<i>hemN2</i>	-143	4.78	ctTGACaAAATTAcTCgGA	paralog of oxygen-independent coproporphyrinogen III oxidase
RRC03288	<i>X-feoAB</i>	-66	4.22	cCatACTAtTTcAGTCAGg	ferrous iron transporter
		-35	4.5	ctTGACTtATccAGTCAGA	
RRC04402	<i>viuA</i>	-242	4.42	gCcGAtaAAAaTAcTCgGA	vibriobactin receptor precursor
RRC04403	<i>fepBDGC</i>	-74	4.42	TCcGAgTAtTTTTaTCgGc	ferrienterobactin ABC transporter
RRC04414	<i>araX2</i>	-421	4.41	TgTGACaAAAaTAGTCAac	AraC-type regulator for siderophore uptake (next to fhuA3<>fepBDGC2-mxcB)
RRC04415	<i>araX3</i>	-50	4.41	gtTGACTAtTTTTGTCaCA	AraC-type regulator for siderophore uptake
RRC02269	<i>araX4 - fhuA1-fhuDBC</i>	-56	4.38	gtTGAtTgtTTctGTCAGA	ferrichrome iron receptor, ABC transporter
RRC00211	<i>FTR1-COG2837-chpA</i>	-32	4.28	TCcGACaAAATaAaTaAGg	High-affinity Fe <sup>2+</sup> transport component and permease, peroxidase
RRC04484	<i>araX1 -irp6ABC</i>	-100	4.26	CtTGtgTaATTTtGTCAGG	ferrisiderophore ABC transporter
RRC04485	<i>fhuA2-fes</i>	-40	4.26	cCTGACaAAATTAcCAag	ferrichrome iron receptor, enterochelin esterase
RRC01804	<i>X- hmuP</i>	-85	4.26	cCcGACTAAAagAtTCgGg	hemin uptake protein
RRC01044	<i>fbpAB</i>	-83	4.2	ctTGACggATTTAGTCAtg	ferric cations ABC transporter
RRC02196	<i>troA-fecD</i>	-34	4.18	atcGACTctTTcAcTCgGA	iron siderophore ABC transporter
RRC04521	<i>hmuRSTUV</i>	-98	4.17	ctTGACaAAATgAcTagGA	hemin receptor, ABC transporter
RRC04412	<i>fepBCDE2</i>	-121	4.11	aCTGAtggtTTTTGTCAGA	ferrienterobactin ABC transporter
RRC04413	<i>fhuA3</i>	-173	4.11	TCTGACaAAAaccaTCAGt	ferrichrome iron receptor
RRC01434	<i>exbB-exbD-tonB</i>	-92	4.11	ctTGACaAgTTcAcTCAac	components for TonB-dependent iron transporters
RRC00380	<i>fssA</i>	-55	<u>3.93</u>	ctTGACggtTTcgGTCgGc	hypothetical Fe-S scaffold protein
<b>Silicibacter sp. TM1040</b>					
TM1040_0124	<i>fbpA</i>	-125	4.77	TCTGACTgAATTtATCgGA	ferric cations ABC transporter
TM1040_2198	<i>hmuP-irpA</i>	-259	4.56	TCTGACcAAATaAaTCAGg	hemin uptake protein, iron-regulated protein A
TM1040_2633		-117	4.38	TCcGACaAAAaTAcTagGg	hypothetical protein A, conserved regulation in MED193 and ISM
TM1040_3525	<i>sdhCDAB</i>	-174	<u>4.08</u>	TCTGACTgtTaTAcTtgGg	succinate dehydrogenase
TM1040_2200	<i>bfd-bfr</i>	-72	<u>4.08</u>	gCTtAtTctTTTAcTCgGA	bacterioferritin ferredoxin, bacterioferritin
TM1040_0347	<i>hmuR-Smc01514-exbBD-tonB</i>	-190	<u>3.91</u>	ctTGACagATTTAaTaAat	hemin receptor, conserved protein, components of TonB-dependent transporters
TM1040_0346	<i>hmuSTUV</i>	-127	<u>3.91</u>	atTtAtTAAATctGTCAag	hemin ABC transporter
TM1040_1240	<i>iscR -sufSBCD</i>	-138	<u>3.7</u>	ctTGACgAATTTtATCcGg	Fe-S cluster assembly
<b>Silicibacter pomeroyi</b>					
SPO0086	<i>irpA</i>	-89	4.94	aCTGACaAATTTAGTCAGA	iron-regulated protein A

SPO3139		-32	4.68	TCcGACTttAacAGTCgGA	similar to truncated hemoglobins
SPO3287	<i>fbpA</i>	-51	4.56	cCcGACTgAAAaTAaTCAGt	ferric cations ABC transporter
		-2	4.67	atTGACTAtTTcAGTCgGA	
SPO0789	<i>hmuP-hmuX*</i>	-100	4.44	ggcGACaAAAaTAGTCAGg	hemin uptake protein, hypothetical conserved protein
SPO2025	<i>iscR-sufSBCD</i>	-140	4.04	ctTGACgAATTcccTCgGg	Fe-S cluster assembly
SPO3288	<i>fbpB</i>	-26	4.06	TCcGACTAAAaTgGTCgat	ferric cations ABC transporter
<b>Jannaschia sp. CC51</b>					
Jann_0118	<i>fbpA</i>	-38	5.05	cCTGACTgtTTTAGTCgGA	ferric cations ABC transporter
Jann_3275	<i>hmuP-Jann3275</i>	-82	4.95	tCTGAgTAAAaTAcTCAGG	COG4256: hemin uptake protein, hypothetical Fe-S protein
		-54	4.24	gCatACTAtTTTAGTCAGG	
Jann_2122	<i>fecB</i>	-60	4.15	TCTaACTAtTTctGTCAGc	iron(III) dicitrate-binding protein
		-35	4.86	TCTGACTAAAaTAcTCAac	
Jann_2123	<i>fecCDE</i>	-60	4.86	gtTGAgTAatTTTAGTCAGA	iron(III) dicitrate ABC transporter, permease subunits, ATPase
		-35	4.15	gCTGACagAAAaTAGTtAGA	
Jann_3277	<i>Jann_3277-dps</i>	-30	4.66	cCTGAgTAATAcAcTCAag	hypothetical protein, DNA-binding ferritin-like protein Dps
Jann_1368	<i>irpA</i>	-254	4.58	TCTGACaAAAcaAGTCAGg	iron-regulated protein A (Vibrio)
Jann_2132	<i>hmuR-Smc01514-exbBD-tonB</i>	-143	4.28	gtTGACgctTTTAGTCgGA	hemin receptor, conserved protein, components of TonB-dependent transporters
Jann_2133	<i>hmuSTUV</i>	-132	4.28	TCcGACTAAAagcGTCAac	hemin ABC transporter
<b>Rhodobacteriales bacterium HTCC2654</b>					
RB2654_08847	<i>X-hmuP-hmuX*</i>	-90	5	TCcGACTgAATTtGTCAGA	COG4256: hemin uptake protein, hypothetical conserved protein
RB2654_04329	<i>fbpA</i>	-53	4.96	cCTGACgAATTTAGTCAGA	ferric cations ABC transporter
RB2654_09494	<i>fecB-mxcB</i>	-66	4.74	cCcGACTgATTTAGTCAat	iron(III) dicitrate-binding protein, siderophore-interacting protein
		-33	4.55	TCcGACTgAAacAcTCAac	
RB2654_09499	<i>fecCDE</i>	-88	4.55	gtTGAgTgtTTcAGTCgGA	iron(III) dicitrate ABC transporter, permease subunits, ATPase
		-55	4.74	atTGACTAAATcAGTCgGg	
RB2654_15781	<i>hmuR</i>	-111	4.48	gtTGACTAAATTAcTaAGc	hemin receptor
RB2654_15786	<i>hmuSTUV-exbBD-X-tonB</i>	-119	4.48	gCTtAgTAATTTAGTCAac	hemin ABC transporter
RB2654_13154	<i>irpA</i>	9	4.48	TCcGACcAAATcAaTCAGc	iron-regulated protein A
<b>Roseobacter sp. MED193</b>					
MED193_19679	<i>hmuP-hmuX*-irpA</i>	-117	5.1	TCTGACaAAAaTAGTCAGA	hemin uptake protein, hypothetical conserved protein, iron-regulated protein A
		-90	4.5	ctTGAtTgtTTTAAaTCAGg	
MED193_15812		-140	5.1	TCTGACTAtTTTTGTCAGA	hypothetical protein A
MED193_19654	<i>bfd-bfr</i>	-102	4.25	cCTGACaAAAacAaTaAGc	bacterioferritin ferredoxin, bacterioferritin
		-71	4.37	cCTtAtTgtTTTTGTCAGA	
MED193_04321	<i>iscR-sufSBCD</i>	-143	3.96	ctTGACgAATTccaTCAGc	Fe-S cluster assembly
MED193_17499	<i>hmuSTUV</i>	-120	3.95	ggTGAtaAAAacAGTCAac	hemin ABC transporter
MED193_17504	<i>hmuR-Smc01514-exbBD-tonB</i>	68	3.95	gtTGACTgtTTTTaTCAcc	hemin receptor, conserved protein, components of TonB-dependent transporters
MED193_22076	<i>fecBCDE-mxcB</i>	-354	3.96	ctTGACaAAAacctGTaAGg	iron(III) dicitrate ABC transporter
<b>Roseovarius sp. 217</b>					
ROS217_23057	<i>fbpA</i>	-97	4.9	TCcGACTAAAactGTCAGA	ferric cations ABC transporter
		-71	4.62	atTGACTctTTTAGTCAGA	
ROS217_22882	<i>fhuABCD</i>	-31	4.55	cCTGAgTtAAagAGTCgGA	ferrichrome iron receptor, ABC transporter

ROS217_10107	<i>irpA</i>	-146	4.43	gCctACTAAATcAGTCAac	iron-regulated protein A (Vibrio)
ROS217_17432	<i>hmuSTUV</i>	-112	4.23	TaTGAgTAAAagAGTCAag	hemin ABC transporter
ROS217_17442	<i>hmuR</i>	-199	4.23	ctTGACTctTTTAcTCAtA	hemin receptor
ROS217_23865	<i>hmuP-hmuX*-bfd-bfr</i>	-151	4.13	TCTGAtcAAAagAaTCgGA	hemin uptake protein, hypothetical conserved protein, ferredoxin, bacterioferritin
		-123	4.55	cCTtAtTAATTaAGTCAGA	
ROS217_20592	<i>fbpC</i>	-35	4.07	cCcGAtagATTTgaTCgGA	ferric cations ABC transporter, ATPase component
ROS217_22872	<i>mxcB-Smc01514-exbBD-tonB</i>	-56	4.07	gtTGACaAATTacaTCAGg	siderophore-interacting protein, components of TonB-dependent transporters
ROS217_22877	<i>araX</i>	-166	4.07	cCTGAtgtAATTtGTCAac	siderophore uptake AraC-type regulator
<b>Roseovarius nubinhibens ISM</b>					
ISM_05125	<i>fbpA</i>	-139	5.11	CtTGACTAAATTAGTCgGa	ferric cations ABC transporter
		-105	4.95	tCcGAgTAtTTTAGTCgGa	
ISM_01000	<i>hmuP-bfd-bfr</i>	-204	4.98	tCTGACTAAAaaAGTCgGa	COG4256: hemin uptake protein, bacterioferritin ferredoxin, bacterioferritin
		-177	4.65	tCTGACagAATaAaTCAGA	
ISM_15940	ISM_15940-15945	-82	4.76	tCcGACTctTTTTgTCAGA	hypothetical protein, hypothetical protein A
ISM_04365	<i>irpA</i>	-81	4.72	CCcGAgTAtTTcAcTCAGG	iron-regulated protein A (Vibrio)
ISM_00940	<i>OMP1</i>	-116	4.67	CCTGAgTAAAagAcTCAGG	TonB-dependent siderophore receptor
ISM_04230	<i>hmuSTUV</i>	-109	4.28	tCaGACTAAAactGTCAaG	hemin ABC transporter
ISM_04235	<i>hmuR</i>	-158	4.28	CtTGACagtTTTAGTCtGa	hemin receptor
ISM_05670	<i>OMP2</i>	-99	4.07	CtTGACTttTTgccTCAGG	TonB-dependent siderophore receptor
<b>Loktanella vestfoldensis SKA53</b>					
SKA53_06277	6277- <i>dps</i>	-32	4.86	gCTGACTAtATTtGTCGGg	COG0783, DNA-binding ferritin-like protein Dps
SKA53_14131	<i>hmuP-hmuX*</i>	-42	4.86	cCTGACTAAAaaAcTCAGg	COG4256: hemin uptake protein, hypothetical conserved protein
SKA53_06267	Jann3275	-48	4.64	gCTGACagAAaTAaTCAGA	hypothetical Fe-S protein
SKA53_05313	<i>fbpA</i>	-79	4.6	cCCGACTAAAaTAtTCAGg	ferric cations ABC transporter
SKA53_02241	<i>fbpB</i>	-73	4.5	TCCGAtcAAATaAGTCAGA	ferric cations ABC transporter
SKA53_06417	<i>hmuR-Smc01514-exbBD-tonB</i>	-112	4.47	ctTGACTgtTTgtGTCGGA	hemin receptor, conserved protein, components of TonB-dependent transporters
SKA53_06422	<i>hmuSTUV</i>	-121	4.47	TCCGACacAAacAGTCAag	hemin ABC transporter
SKA53_05183	<i>iscR-sufSBCD</i>	-130	4.16	ctTGACgAAAactaTCAGg	Fe-S cluster assembly
<b>Sulfitobacter sp. EE-36</b>					
EE36_08018	<i>araX</i>	-114	4.96	TCCGAgTAAATTTgTCAGA	siderophore uptake AraC-type regulator
EE36_05618	<i>fbpB</i>	-27	4.94	TCCGACTgAATTAGTCGaA	ferric cations ABC transporter, permease component
EE36_10464	<i>hmuP-hmuX*</i>	-273	4.81	TCCGACTAAAactGTGCGGA	COG4256: hemin uptake protein, hypothetical conserved protein
		-246	4.02	cCCtAtaAtTTcAaTCAGg	
EE36_01780	<i>fhuA2-X-mxcB</i>	-29	4.69	TCCGACTAAAacAGTaAGg	TonB-dependent siderophore receptor, siderophore-interacting protein
EE36_02713	<i>irpA</i>	-139	4.62	TCTtACTAAAaTtGTCGGg	iron-regulated protein A
EE36_08023	<i>fhuABCD</i>	-45	4.42	aCTGAgTtAAaTAcTCGGA	ferrichrome iron receptor, ABC transporter
EE36_12993	<i>Smc01514-exbBD-tonB</i>	-168	4.33	gtTGAtTgtTaaAGTCAGg	conserved protein, components of TonB-dependent transporters
EE36_05613	<i>fbpA</i>	-167	4.27	TtTGACacAAagAcTCAGg	ferric cations ABC transporter, periplasmic component
		-92	4.26	TCCtAtTAATTcAcTCAag	
EE36_01530	<i>hmuR</i>	-113	4.23	aCCGACTAAAagtGTCAac	hemin receptor
EE36_01535	<i>hmuSTUV</i>	-257	4.23	gtTGACactTTTAGTCGGt	hemin ABC transporter
EE36_10454	<i>OMP1</i>	-81	4.23	ctTGAtTgtTTTTaTCAGc	TonB-dependent siderophore receptor

EE36_16412	<i>fbpC</i>	-31	<u>3.98</u>	cCCGAgcgAATTgaTCGGA	ferric cations ABC transporter, ATPase component
<b>Oceanicola batsensis HTCC2597</b>					
OB2597_05425	<i>hmuP-Smc01514-exbBD-tonB</i>	-193	4.53	ctTGACTAATTTgaTCGGA	COG4256: hemin uptake protein, components of TonB-dependent transporters
OB2597_08064	<i>OMP2</i>	-167	4.54	TCCGACTgATaTAGTCAcc	TonB-dependent siderophore receptor
OB2597_04193	<i>fbpA</i>	-61	4.66	cCTGACcAAAaTAcTCGGA	ferric cations ABC transporter, periplasmic component
OB2597_00230	<i>nuoABCDEFGHIJLMN</i>	-204	4.41	cCCtACTgAAagAGTCAGg	NADH ubiquinone oxidoreductase
OB2597_09404	<i>fecBCDE-mxcB</i>	-153	4.14	atCGACTgtTTTTGTCGGt	iron(III) dicitrate ABC transporter, siderophore-interacting protein
		-50	4.24	TCCGACTgAAacAaTCAtg	
OB2597_09409	<i>fhuA</i>	-391	4.24	caTGAtTgtTTcAGTCGGA	ferrichrome iron receptor
		-288	4.14	aCCGACaAAAacAGTCGat	
OB2597_06825	<i>hmuX*</i>	-96	4.21	ggTGAgcAAAaTAGTCAGg	hypothetical conserved protein
OB2597_05460	<i>OMP1</i>	-100	4.1	TCTGACggtTTTTaTCAac	TonB-dependent siderophore receptor
OB2597_03589	<i>iscR-sufSBCD</i>	-133	<u>3.92</u>	CtTGACgacTTtgGTCAaG	Fe-S cluster assembly
OB2597_00425	<i>fbpC</i>	-27	<u>4.02</u>	cCTtAgTAAATccaTCgGA	ferric cations ABC transporter, ATPase component

**Color code for functional roles of genes:**

**Genes involved in iron uptake**

**Genes involved in iron storage**

**Genes involved in iron utilization pathways (synthesis of Fe-S, heme; iron-containing enzymes)**

**Transcription factors (*rirA*, *araX*, *fecIR*, *irr*)**

**Genes with other or uncertain functional roles**