

Supplementary Information

Table S1. Bacterial strains and plasmids used in this study.

Strains or Plasmids	Genotype ^a	Source
<i>E. coli</i>		
K12	<i>endA1, hsdR17</i> (r _{K12} ⁻ , m _{K12} ⁺), <i>supE44, thi-1, recA1, gyrA96, relA1, lacF</i> [<i>proA</i> ⁺ <i>B</i> ⁺ , <i>lac</i> ^f ZDM15::tn10(tet ^R)]	Clontech
DH5α	<i>endA1 hsdR17</i> (r _K ⁻ m _K ⁻) <i>supE44 thi-1 recA1 gyrA relA1 Δ(lacZYA-argF)U169 deoR [φ80dlac Δ(lacZ ΔM15)]</i>	Invitrogen
<i>C. jejuni</i>		
AS144	<i>C. jejuni</i> NCTC 11168	National Collection of Type Cultures
AS27	AS144 <i>ΔtonB1::cam</i> ^R	(1)
AS211	AS144 <i>ΔCj0178::cam</i> ^R	(2)
AS240	AS144 <i>ΔtonB2::cam</i> ^R	(1)
AS241	AS144 <i>ΔtonB1+tonB2::cam</i> ^R <i>kan</i> ^R	(1)
AS242	AS144 <i>ΔtonB2+tonB3::cam</i> ^R <i>kan</i> ^R	(1)
AS256	AS144 <i>Δp19::cam</i> ^R	This study
AS260	AS144 <i>ΔCj1658::cam</i> ^R	This study
AS265	AS144 <i>ΔceuE::cam</i> ^R	(2)
AS269	AS144 <i>ΔcfrA::cam</i> ^R	(2)
AS287	AS144 <i>ΔspoT::cam</i> ^R	(3)
AS335	AS144 <i>ΔchuA::cam</i> ^R	(4)
AS450	AS144 <i>Δp19+ΔCj1658::cam</i> ^R	This study
AS498	AS144 <i>Δacs::cam</i> ^R	This study
AS735	AS144 <i>ΔtruB::cam</i> ^R	This study
AS736	AS144 <i>ΔCj1340c::cam</i> ^R	This study
AS737	AS144 <i>Δald::cam</i> ^R	This study
AS738	AS144 <i>ΔCj1341c::cam</i> ^R	This study
AS739	AS144 <i>ΔCj0020c::cam</i> ^R	This study
AS740	AS144 <i>ΔCj0358::cam</i> ^R	This study
AS741	AS144 <i>ΔmdaB::cam</i> ^R	This study
AS742	AS144 <i>ΔCj1026c::cam</i> ^R	This study
AS743	AS144 <i>ΔccoQ::cam</i> ^R	This study
AS745	AS144 <i>ΔCj1167::cam</i> ^R	This study
AS746	AS144 <i>ΔpstC::cam</i> ^R	This study
AS747	AS144 <i>ΔCj0073c::cam</i> ^R	This study
AS748	AS144 <i>ΔCj0818::cam</i> ^R	This study
AS749	AS144 <i>ΔCj1613c::cam</i> ^R	This study
AS750	AS144 <i>ΔCj1663::cam</i> ^R	This study
AS751	AS144 <i>ΔflgR::cam</i> ^R	This study
AS752	AS144 <i>ΔCj1377c::cam</i> ^R	This study
AS753	AS144 <i>ΔexbD1::cam</i> ^R	This study
AS754	AS144 <i>ΔCj0045c::cam</i> ^R	This study
AS755	AS144 <i>ΔCj0202c::cam</i> ^R	This study
AS756	AS144 <i>ΔCj0385c::cam</i> ^R	This study

AS757	AS144 $\Delta flgH::cam^R$	This study
AS758	AS144 $\Delta cfbpB::cam^R$	This study
AS759	AS144 $\Delta Cj1335::cam^R$	This study
AS760	AS144 $\Delta Cj1036c::cam^R$	This study
AS761	AS144 $\Delta flhB::cam^R$	This study
AS762	AS144 $\Delta cfbpA::cam^R$	This study
AS763	AS144 $\Delta Cj0040::cam^R$	This study
AS764	AS144 $\Delta flgD::cam^R$	This study
AS765	AS144 $\Delta flgK::cam^R$	This study
AS766	AS144 $\Delta Cj0041::cam^R$	This study
AS767	AS144 $\Delta Cj0416::cam^R$	This study
AS768	AS144 $\Delta flgE::cam^R$	This study
AS769	AS144 $\Delta Cj1342c::cam^R$	This study
AS772	AS144 $\Delta ceuB::cam^R$	This study
AS773	AS144 $\Delta Cj0494::cam^R$	This study
AS774	AS144 $\Delta trpF::cam^R$	This study
AS775	AS144 $\Delta Cj1241::cam^R$	This study
AS776	AS144 $\Delta Cj0295::cam^R$	This study
AS777	AS144 $\Delta Cj0524::cam^R$	This study
AS778	AS144 $\Delta chuB::cam^R$	This study
AS778	AS144 $\Delta Cj0741::cam^R$	This study
AS779	AS144 $\Delta Cj1661::cam^R$	This study
AS780	AS144 $\Delta Cj0148c::cam^R$	This study
AS781	AS144 $\Delta Cj0554::cam^R$	This study
AS782	AS144 $\Delta Cj0561::cam^R$	This study
AS783	AS144 $\Delta Cj1406c::cam^R$	This study
AS784	AS144 $\Delta Cj0587::cam^R$	This study
AS785	AS144 $\Delta Cj0819::cam^R$	This study
AS786	AS144 $\Delta flgM::cam^R$	This study
AS787	AS144 $\Delta Cj0672::cam^R$	This study
AS789	AS144 $\Delta Cj1209::cam^R$	This study
AS790	AS144 $\Delta Cj1356c::cam^R$	This study
AS791	AS144 $\Delta Cj0786::cam^R$	This study
AS792	AS144 $\Delta Cj0949c::cam^R$	This study
AS793	AS144 $\Delta Cj1211::cam^R$	This study
AS794	AS144 $\Delta Cj0814::cam^R$	This study
AS795	AS144 $\Delta Cj1242::cam^R$	This study
AS796	AS144 $\Delta Cj1623::cam^R$	This study
AS797	AS144 $\Delta flgG::cam^R$	This study
AS798	AS144 $\Delta exbB2::cam^R$	This study
AS799	AS144 $\Delta Cj0634::cam^R$	This study
AS800	AS144 $\Delta cfbpC::cam^R$	This study
AS801	AS144 $\Delta hypC::cam^R$	This study
AS802	AS144 $\Delta Cj0260c::cam^R$	This study
AS803	AS144 $\Delta flgl::cam^R$	This study
AS804	AS144 $\Delta chuD::cam^R$	This study
AS805	AS144 $\Delta exbB1::cam^R$	This study
AS806	AS144 $\Delta Cj1207c::cam^R$	This study
AS807	AS144 $\Delta flgE2::cam^R$	This study
AS808	AS144 $\Delta Cj0062c::cam^R$	This study
AS809	AS144 $\Delta chaN::cam^R$	This study

AS830	AS144 Δ <i>flaG</i> ::cam ^R	This study
AS831	AS144 Δ <i>flgG2</i> ::cam ^R	This study
AS832	AS144 Δ Cj0309c::cam ^R	This study
AS833	AS144 Δ Cj1388::cam ^R	This study
AS940	AS144 Δ <i>cmeA</i> ::cam ^R	This study
AS941	AS144 Δ Cj1255::cam ^R	This study
AS943	AS144 Δ Cj0253::cam ^R	This study
AS959	AS144 Δ <i>chuC</i> ::cam ^R	This study
AS961	AS786 + <i>flgM</i> ::cam ^R kan ^R	This study
AS962	AS808 + Cj0062c::cam ^R kan ^R	This study
AS963	AS809 + <i>chaN</i> ::cam ^R kan ^R	This study
AS964	AS747 + Cj0073c::cam ^R kan ^R	This study
AS965	AS794 + Cj0814::cam ^R kan ^R	This study
AS966	AS796 + Cj1623::cam ^R kan ^R	This study
AS967	AS742 + Cj1026c::cam ^R kan ^R	This study
AS968	AS774 + <i>trpF</i> ::cam ^R kan ^R	This study
AS970	AS803 + <i>flgI</i> ::cam ^R kan ^R	This study
AS971	AS802 + Cj0260c::cam ^R kan ^R	This study
AS972	AS760 + Cj1036c::cam ^R kan ^R	This study
AS973	AS757 + <i>flgH</i> ::cam ^R kan ^R	This study
AS974	AS144 Δ Cj0171::cam ^R	This study
AS975	AS746 + <i>pstC</i> ::cam ^R kan ^R	This study
AS976	AS805 + <i>exbB1</i> ::cam ^R kan ^R	This study
AS977	AS766 + Cj0041::cam ^R kan ^R	This study
AS979	AS764 + <i>flgE</i> ::cam ^R kan ^R	This study
AS980	AS765 + Δ <i>flgK</i> ::cam ^R kan ^R	This study
AS981	AS752 + Cj1377c::cam ^R kan ^R	This study
AS982	AS751 + <i>flgR</i> ::cam ^R kan ^R	This study
AS983	AS761 + <i>flhB</i> ::cam ^R kan ^R	This study
AS984	AS740 + Cj0358::cam ^R kan ^R	This study
AS991	AS755 + Cj0202c::cam ^R kan ^R	This study
AS992	AS764 + <i>flgD</i> ::cam ^R kan ^R	This study
AS993	AS798 + <i>exbB2</i> ::cam ^R kan ^R	This study
AS1014	AS498 + <i>acs</i> ::cam ^R kan ^R	This study
AS1030	AS144 Δ Cj0977::cam ^R	This study
AS1060	AS144 Δ Cj1383c::cam ^R	This study
AS1061	AS144 Δ Cj0344::cam ^R	This study
AS1062	AS144 Δ <i>flgL</i> ::cam ^R	This study
AS1063	AS144 Δ Cj1159c::cam ^R	This study
AS1064	AS144 Δ <i>folP</i> ::cam ^R	This study
AS1065	AS144 Δ <i>exbD2</i> ::cam ^R	This study
AS1066	AS144 Δ Cj0947c::cam ^R	This study
AS1067	AS144 Δ <i>pseB</i> ::cam ^R	This study
AS1068	AS144 Δ Cj0900c::cam ^R	This study
AS1071	AS144 Δ <i>rrc</i> ::cam ^R	This study
AS1123	AS1060 + Cj1383c::cam ^R kan ^R	This study
AS1124	AS1061 + Cj0344::cam ^R kan ^R	This study
AS1125	AS1066 + Cj0947c::cam ^R kan ^R	This study
AS1126	AS1071 + <i>rrc</i> ::cam ^R kan ^R	This study
AS1127	AS1131 + <i>acnB</i> ::cam ^R kan ^R	This study
AS1128	AS1062 + <i>flgL</i> ::cam ^R kan ^R	This study

AS1129	AS1067 + <i>pseB::cam^Rkan^R</i>	This study
AS1131	AS144 Δ <i>acnB::cam^R</i>	This study
AS1132	AS144 Δ <i>tonB3::cam^R</i>	(1)
AS1133	AS1132 + <i>tonB3::cam^Rkan^R</i>	(1)
AS1330	AS144 Δ <i>motAB::cam^R</i>	This study
AS1334	AS144 Δ <i>ccoQ::kan^R</i>	This study
AS1337	AS144 Δ <i>ccoQ</i> Δ <i>flgH::kan^Rcam^R</i>	This study
AS1338	AS144 Δ <i>ccoQ</i> Δ <i>flhB::kan^Rcam^R</i>	This study
AS1339	AS144 Δ <i>ccoQ</i> Δ <i>flgD::kan^Rcam^R</i>	This study
AS1340	AS144 Δ <i>ccoQ</i> Δ <i>motAB::kan^Rcam^R</i>	This study
AS1341	AS1330 + <i>motAB::kan^Rcam^R</i>	This study

Plasmids

pRY111	Cam ^R resistance gene	Yao (5)
pILL600	Kan ^R resistance gene	Reid (6)
pRRK	Cloning vector used for complementation of mutants, kan ^R	Reid (6)
pUC19	Cloning vector, amp ^R	Biolabs

^{a-} cam^R, chloramphenicol resistance gene, kan^R, kanamycin resistance gene, amp^R, ampicillin resistance gene.

Table S2. Primers used in this study.

Primer Name	Primer Sequence (5'- 3') ^a
acs_AS	CGACTCTAGAGGATCCTCCACGCCCTGTGACAAATCC
acs_AS_inverse	GAACACCGCCGAGCAGCTCATTAGGTGCATCAGCA
acs_SE	CGGTACCCGGGGATCCAACGGCTGATGGTGCTTTTCG
acs_SE_inverse	GAACTAAAGGGGCGCAGGCGAGTCATTGTTTGCTTT
ald_AS	CGACTCTAGAGGATCCCCATCAGCTCCGCCTATGC
ald_AS_inverse	GAACACCGCCGAGCATAAAGCAGGTGCCATCTTCC
ald_SE	CGGTACCCGGGGATCCATGGCAAGAGATGAAAGCACAC
ald_SE_inverse	GAACTAAAGGGGCGCAAGTGTGCAAAGATGCGGATA
ccoQ_AS_cam	CGACTCTAGAGGATCCCATGACAAGCCGAACACTGAAC
ccoQ_AS_inverse_cam	GAACACCGCCGAGCACAAAACATCACGAGTGCAAA
ccoQ_AS_inverse_kan	GTTTCGCTGGGTTTATCCAAAACATCACGAGTGCAAA
ccoQ_SE_cam	CGGTACCCGGGGATCCGGACCTGATCTTGCTCGTGTAG
ccoQ_SE_inverse_cam	GAACTAAAGGGGCGCATGCAAACCTTGCCTTAAAAGA
ccoQ_SE_inverse_kan	GATGTCTAGAAAGCTTTGCAAACCTTGCCTTAAAAGA
ceuB_AS	CGACTCTAGAGGATCCATTAGCCGCACCAAAAAGAAA
ceuB_AS_inverse	GAACACCGCCGAGCACTTCACCCATGCCAACTATG
ceuB_SE	CGGTACCCGGGGATCCATGCAACAACCTCACGCAAAA
ceuB_SE_inverse	GAACTAAAGGGGCGCATGATTGTAAGCGTTGGGATT
cfbpA_AS	CGACTCTAGAGGATCCAGCAGAACTCACACCCAAAATC
cfbpA_AS_inverse	GAACACCGCCGAGCATCGCAAACCATTCTTTATCCTT
cfbpA_SE	CGGTACCCGGGGATCCCTATGCGTTGGCTTTGCTTTTG
cfbpA_SE_inverse	GAACTAAAGGGGCGCAAAGTGGGGAATTCTTTGGGTA
cfbpB_AS	CGACTCTAGAGGATCCATCCTCTTGCCATAGCTCTAGC
cfbpB_AS_inverse	GAACACCGCCGAGCACCAATAAGCACTTGACCA
cfbpB_SE	CGGTACCCGGGGATCCTGATTTTGGGTGTGAGTTCTGC
cfbpB_SE_inverse	GAACTAAAGGGGCGCACAGCTTTGCCCTTCTTGT
cfbpC_AS	CGACTCTAGAGGATCCACAGTAGCCACACGACTTACCC
cfbpC_AS_inverse	GAACACCGCCGAGCACACTCTTTGCGCTTGCTCTC
cfbpC_SE	CGGTACCCGGGGATCCTGATGCAGCTTTGCCCTTCTTG
cfbpC_SE_inverse	GAACTAAAGGGGCGCAAAAATCAAGGCATTACGGCTA
chuB_AS	CGACTCTAGAGGATCCTGCTTTTGCCTGAGCCATTTGG
chuB_AS_inverse	GAACACCGCCGAGCATCGCCATTATAATCCGTGGT
chuB_SE	CGGTACCCGGGGATCCGCTGGGCTTGAATACGCTTGG
chuB_SE_inverse	GAACTAAAGGGGCGCATGGTTTTCGTGTGGGAATTTT
chuC_AS	CGACTCTAGAGGATCCGGTGATTTGGCCTAAGGTTGTG
chuC_AS_inverse	GAACACCGCCGAGCATGAGGCACAAAGCCACAAAT
chuC_SE	CGGTACCCGGGGATCCGCGGACTTATAGGCTTTGTTGG
chuC_SE_inverse	GAACTAAAGGGGCGCAAGCCGTTGTTGCTATCTTGC
chuD_AS	CGACTCTAGAGGATCCTGGTGCCTTGCTGTTTGGATAC
chuD_AS_inverse	GAACACCGCCGAGCATGAAAAAGTGCCTACGCTTG
chuD_SE	CGGTACCCGGGGATCCGATGAACCCACTTCAGCCCTTG
chuD_SE_inverse	GAACTAAAGGGGCGCATTAAAGCCCGCAAAGTCAAAT
Cj0012c_AS	CGACTCTAGAGGATCCATCGCTTTAGCTTTAGCTTCGC
Cj0012c_AS_comp	GGGGAAGCTTTCTAGCACCAAGAGAAAAGCCGTTA
Cj0012c_AS_inverse	GAACACCGCCGAGCATTTCATTTTCAGCCGCTTCT
Cj0012c_SE	CGGTACCCGGGGATCCTCGCATCGTTCTCATTGTAAC
Cj0012c_SE_comp	GATTTAGATGTCTAGAGCAAAGCTTAATTTTTGTGAAA
Cj0012c_SE_inverse	GAACTAAAGGGGCGCATGCAAAAATCGCTGAAGATG

Cj0020c_AS	CGACTCTAGAGGATCCCGCTTGAACACTTGGATCGTAG
Cj0020c_AS_inverse	GAACACCGCCGAGCAGCCGTGTTGATCAAGCCTAT
Cj0020c_SE	CGGTACCCGGGGATCCAGAAGAAGCTTAGCGCAGGCATG
Cj0020c_SE_inverse	GAACTAAAGGGCGCAGCATCTCTTGCCATCAAGGT
Cj0040_AS	CGACTCTAGAGGATCCCGCTCTCATCAAAGCTCCT
Cj0040_AS_inverse	GAACACCGCCGAGCAAAAAGCTCTAAAAGCTTGAAGCAAAA
Cj0040_SE	CGGTACCCGGGGATCCCGTTCTACTTCTCCGCCAAA
Cj0040_SE_inverse	GAACTAAAGGGCGCATGGCAAGAATTTCAAGTGAGC
Cj0041_AS	CGACTCTAGAGGATCCTGCGTTTTTGTGCTCTTG
Cj0041_AS_comp	GGGGAAGCTTTCTAGGGTAGCATTGGATTGCTCA
Cj0041_AS_inverse	GAACACCGCCGAGCATCGTGTTTGTCTTTTGGGA
Cj0041_SE	CGGTACCCGGGGATCCGAAGCGATGAGCAGACTTCA
Cj0041_SE_comp	GATTTAGATGTCTAGTGAAGAAAAATTTCTAATGTAATGG
Cj0041_SE_inverse	GAACTAAAGGGCGCAGAAGAAGATACCACAGATGCTAAAAA
Cj0044c_AS	CGACTCTAGAGGATCCCAACGGCAAATAGCGGTGATG
Cj0044c_AS_inverse	GAACACCGCCGAGCAAAAATCCATAATTGGCGCTAAAA
Cj0044c_SE	CGGTACCCGGGGATCCTCCAACCTCAACCTAACCCATC
Cj0044c_SE_inverse	GAACTAAAGGGCGCAAGCCGAAAATATCGGAGAGG
Cj0045c_AS	CGACTCTAGAGGATCCAGATGGGTTAGGTTGGAGTTGG
Cj0045c_AS_inverse	GAACACCGCCGAGCATCAATCAAAGGAAAATCAATGC
Cj0045c_SE	CGGTACCCGGGGATCCAAACCCTTCCCAGATAACTGC
Cj0045c_SE_inverse	GAACTAAAGGGCGCATTCTTTGCGTATCCATGCAG
Cj0062c_AS	CGACTCTAGAGGATCCTTTATCGTAACGGCGTGAAAGC
Cj0062c_AS_comp	GGGGAAGCTTTCTAGTTGAAGGCAAGCGTTCTTTT
Cj0062c_AS_inverse	GAACACCGCCGAGCATCCACAAACAGTGAAAAATGC
Cj0062c_SE	CGGTACCCGGGGATCCGCAGCAATCACTGATGCGTATG
Cj0062c_SE_comp	GATTTAGATGTCTAGGCCCTAGCTTCCAAGCTTTT
Cj0062c_SE_inverse	GAACTAAAGGGCGCATGAAGCCTTTGATATACTGATTTTT
Cj0073c_AS	CGACTCTAGAGGATCCCCTTGCTTGCAAGTTCACAA
Cj0073c_AS_comp	GGGGAAGCTTTCTAGTTGGAATTAGTTTATCTAAAAGCACCT
Cj0073c_AS_inverse	GAACACCGCCGAGCATTGCGACAATTTTATTGATT
Cj0073c_SE	CGGTACCCGGGGATCCGCCCTAGAAGCCTTTGCTTT
Cj0073c_SE_comp	GATTTAGATGTCTAGCGGTACAAAATTTTCGCAAGC
Cj0073c_SE_inverse	GAACTAAAGGGCGCAGCCTTGCACCTAAACTTTGC
Cj0148c_AS	CGACTCTAGAGGATCCGCGTAGGAATAGAGCGAACACC
Cj0148c_AS_inverse	GAACACCGCCGAGCACAAGCCTTATCTTCCCCTAAAA
Cj0148c_SE	CGGTACCCGGGGATCCAGCAGGAGCAGGAGGAGAGG
Cj0148c_SE_inverse	GAACTAAAGGGCGCACCCGAGCGTTTGGATAGAAAA
Cj0171_AS	CGACTCTAGAGGATCCTCGCTAAAGGAATTTGGCAAGG
Cj0171_AS_inverse	GAACACCGCCGAGCAGCAAGGATCTTTTTCCCAAA
Cj0171_SE	CGGTACCCGGGGATCCAATGCACGCCCTGCTTATTTAG
Cj0171_SE_inverse	GAACTAAAGGGCGCAGCTTTTAAAGAAGCTGTGCAAGA
Cj0177_AS	CGACTCTAGAGGATCCCACGCCCAAACCACTCATACC
Cj0177_AS_comp	GGGGAAGCTTTCTAGTTTTTTCATTCTCCCCCTTA
Cj0177_AS_inverse	GAACACCGCCGAGCATCGCCAAGCAGTATCACATC
Cj0177_SE	CGGTACCCGGGGATCCAGCAAGCAAAGCAAAGCCAAC
Cj0177_SE_comp	GATTTAGATGTCTAGAAGCAAAGCCAACGCATAGT
Cj0177_SE_inverse	GAACTAAAGGGCGCAACAGGCGTATGGCTGATGTA
Cj0202c_AS	CGACTCTAGAGGATCCTTTTCTGCCTAAATGTTCCAAA
Cj0202c_AS_comp	GGGGAAGCTTTCTAGTTCTGCACGAAAGACAAGA
Cj0202c_AS_inverse	GAACACCGCCGAGCAGCTGCATTTTCAGCAACAAC

Cj0202c_SE	CGGTACCCGGGGATCCAAAACCAAGCCGTTCAAGAAT
Cj0202c_SE_comp	GATTTAGATGTCTAGAAAACCAAGCCGTTCAAGAAT
Cj0202c_SE_inverse	GAACTAAAGGGCGCAAGCAAAAAGAATGGGTGGTG
Cj0253_AS	CGACTCTAGAGGATCCGCACTTTTCAGCGTTTTCTTT
Cj0253_AS_inverse	GAACACCGCCGAGCACGCACTTGAATTGCAATGTTT
Cj0253_SE	CGGTACCCGGGGATCCCGGCTATAATGGGGGTTAAAA
Cj0253_SE_inverse	GAACTAAAGGGCGCAAAAAAGATCGTTTGGATATATTTGA
Cj0260c_AS	CGACTCTAGAGGATCCTTGTGCCGCAGGTGTATTTA
Cj0260c_AS_comp	GGGGAAGCTTTCTAGCGTGCCTTATATGGCTGGAG
Cj0260c_AS_inverse	GAACACCGCCGAGCACATCAAGAATCAAGCGTCCA
Cj0260c_SE	CGGTACCCGGGGATCCAAATTTATCTTGGTTGGGCTGA
Cj0260c_SE_comp	GATTTAGATGTCTAGTGGCATTAAAGTATGAACAAAATCA
Cj0260c_SE_inverse	GAACTAAAGGGCGCAGCATTGGATTTTTAGCTGGTTT
Cj0295_AS	CGACTCTAGAGGATCCACCATAGCCACGCAAGAAGAAG
Cj0295_AS_inverse	GAACACCGCCGAGCAGCAAATCAAGCAATTTCTGC
Cj0295_SE	CGGTACCCGGGGATCCTCAACAGGTGGAGCTAGAAAGC
Cj0295_SE_inverse	GAACTAAAGGGCGCATGAAATTTACTTTTCGCATCC
Cj0309c_AS	CGACTCTAGAGGATCCTTTGCTACCAAAATCGTAGGG
Cj0309c_AS_inverse	GAACACCGCCGAGCAGCAACGCTCATAGCGATATTT
Cj0309c_SE	CGGTACCCGGGGATCCGGCTTCATGTGAATGAAAAATTC
Cj0309c_SE_inverse	GAACTAAAGGGCGCATATGGACAGGAGCTGGAACC
Cj0344_AS	CGACTCTAGAGGATCCAATCCAGCAAAGTCGCAAAT
Cj0344_AS_comp	GGGGAAGCTTTCTAGAATCCAGCAAAGTCGCAAAT
Cj0344_AS_inverse	GAACACCGCCGAGCATTATATTTTATAATTTTTGAAACAT
Cj0344_SE	CGGTACCCGGGGATCCCATTCCGCTAAAGCTTGCTC
Cj0344_SE_comp	GATTTAGATGTCTAGACCAATGCCAAAAGTCCAG
Cj0344_SE_inverse	GAACTAAAGGGCGCAATTTTCATAAAAGTCTTAATTTTTGA
Cj0358_AS	CGACTCTAGAGGATCCAATCGCAGGAGTTGGCATAGG
Cj0358_AS_comp	GGGGAAGCTTTCTAGCAGCCATTGCTAAACGCATA
Cj0358_AS_inverse	GAACACCGCCGAGCAAGCAGGAGTTGCCATTTTCAG
Cj0358_SE	CGGTACCCGGGGATCCTGCTAATCGCATCCTTAGTTGC
Cj0358_SE_comp	GATTTAGATGTCTAGTTAGCCAAAAGGGATTGAA
Cj0358_SE_inverse	GAACTAAAGGGCGCATGTTGCTGAAACTGCTCCAT
Cj0385c_AS	CGACTCTAGAGGATCCTGCTGCGGCTACAAGTAAATCG
Cj0385c_AS_inverse	GAACACCGCCGAGCAAGCCAAAATATCCCCCTTC
Cj0385c_SE	CGGTACCCGGGGATCCTCACTTTTCATCAAGCCCTCCAC
Cj0385c_SE_inverse	GAACTAAAGGGCGCAAAAACAAGCAGGAGTGGTTGC
Cj0416_AS	CGACTCTAGAGGATCCGCTGATCCTAGCCCACAAGA
Cj0416_AS_inverse	GAACACCGCCGAGCATGTCTGCAGAGGATTATTTCCA
Cj0416_SE	CGGTACCCGGGGATCCTGGGCGCAGATAGAGAAACT
Cj0416_SE_inverse	GAACTAAAGGGCGCAGAGATGAAAGTATTGAAAATGCAA
Cj0494_AS	CGACTCTAGAGGATCCTGCAAGGGTAAAAATTCCTGA
Cj0494_AS_inverse	GAACACCGCCGAGCAAAATTTACTGGGCTTTGTGCTG
Cj0494_SE	CGGTACCCGGGGATCCTTGCTGCTTCTATGGGCTTT
Cj0494_SE_inverse	GAACTAAAGGGCGCAAAAAGAACAGCTTCCAAAACG
Cj0524_AS	CGACTCTAGAGGATCCCGAAGCCGCTAAAACGATGC
Cj0524_AS_inverse	GAACACCGCCGAGCACGACTAAAACCTATAGCATGAGCA
Cj0524_SE	CGGTACCCGGGGATCCAGTGTTGGAGGAGTTGTAACGG
Cj0524_SE_inverse	GAACTAAAGGGCGCACACAACAGCTGAAGGAATTTCA
Cj0554_AS	CGACTCTAGAGGATCCCGCTCCTATCACTCACACTCAC
Cj0554_AS_inverse	GAACACCGCCGAGCATTACCAAAAAGCCAGTGAGA

Cj0554_SE	CGGTACCCGGGGATCCTTACTGCTGCTATTGCTTTGCC
Cj0554_SE_inverse	GAACTAAAGGGCGCATTCAAACCCTGCACACAAA
Cj0561c_AS	CGACTCTAGAGGATCCAGCTTTTCCGTCTGCATCATTG
Cj0561c_AS_inverse	GAACACCGCCGAGCAAGCCGTAGCTGATTGGGTTA
Cj0561c_SE	CGGTACCCGGGGATCCAAGGAGTGGCAAGAATTTCTGC
Cj0561c_SE_inverse	GAACTAAAGGGCGCATTCAACCTTGGCAAACAGTG
Cj0587_AS	CGACTCTAGAGGATCCTGAACAAAACCGCCCGTACTAG
Cj0587_AS_inverse	GAACACCGCCGAGCAAAAAAGCCCATAAAATGCATAAA
Cj0587_SE	CGGTACCCGGGGATCCGGAGAAGAGGCAGGTTCTAAGC
Cj0587_SE_inverse	GAACTAAAGGGCGCATGCCTTAAAATCCGAACAAGA
Cj0634_AS	CGACTCTAGAGGATCCTGATCCACCCTTAGGAATGC
Cj0634_AS_inverse	GAACACCGCCGAGCATTGATCTAAACCATTGGCAAAA
Cj0634_SE	CGGTACCCGGGGATCCCGCAGTAAACTCGCACAAA
Cj0634_SE_inverse	GAACTAAAGGGCGCATAAGGCTGTTGTGGTTGCAC
Cj0672_AS	CGACTCTAGAGGATCCTGCCTGTATTTTGCAGAAAGC
Cj0672_AS_inverse	GAACACCGCCGAGCAGAAGCAAAGCAAAGATAATATCCA
Cj0672_SE	CGGTACCCGGGGATCCCGGCTGCTTGTATGGGTAT
Cj0672_SE_inverse	GAACTAAAGGGCGCACGCGGATGATATTTTTACTAGTTTT
Cj0741_AS	CGACTCTAGAGGATCCTGTGGTTCATTTGCTTCAGGAG
Cj0741_AS_inverse	GAACACCGCCGAGCACAGCATCTGTTGCCTTGTA
Cj0741_SE	CGGTACCCGGGGATCCGTGGGTGGCATAGGCAGAC
Cj0741_SE_inverse	GAACTAAAGGGCGCAGAAAAGCAGTTTGCGGATCT
Cj0786_AS	CGACTCTAGAGGATCCTGTCTTCTTTGCTCTTCCATGA
Cj0786_AS_inverse	GAACACCGCCGAGCATCAATTCCAAAAATAACACCAA
Cj0786_SE	CGGTACCCGGGGATCCATCGTTTTAGGCTTTGGTGA
Cj0786_SE_inverse	GAACTAAAGGGCGCAAAAAATCAAGATTTAAAAGTGCAAG
Cj0814_AS	CGACTCTAGAGGATCCATCACCTTCTATGCCACTCTGC
Cj0814_AS_comp	GGGGAAGCTTTCTAGACAGGTTGTCCACCTTGAGC
Cj0814_AS_inverse	GAACACCGCCGAGCATCTTGCTAGAGTTTGTGAATTTGC
Cj0814_SE	CGGTACCCGGGGATCCAAGGGCATTAGGCATTTACGC
Cj0814_SE_comp	GATTTAGATGTCTAGCAACAAGCATGGGGATTGAT
Cj0814_SE_inverse	GAACTAAAGGGCGCAGAACGCAATGGATGGACTTT
Cj0818_AS	CGACTCTAGAGGATCCATGGTTGTAAGCTCAGTTTTAATGG
Cj0818_AS_inverse	GAACACCGCCGAGCAAAACCCAGCACCTACTACCC
Cj0818_SE	CGGTACCCGGGGATCCTTGAAGTGATTCAAGGCAAG
Cj0818_SE_inverse	GAACTAAAGGGCGCAAATTGACATGATGGCTGCAA
Cj0819_AS	CGACTCTAGAGGATCCAGCTATGGGGACGCAAAGTA
Cj0819_AS_inverse	GAACACCGCCGAGCATTCTTAGGGTCTTGATAGAATAAAAA
Cj0819_SE	CGGTACCCGGGGATCCCCATTTTAGCGCCTTTTCAA
Cj0819_SE_inverse	GAACTAAAGGGCGCAGTCTTTCTAGGGCGAACAGC
Cj0900c_AS	CGACTCTAGAGGATCCACAAGCAAACCTCGCCCTCTA
Cj0900c_AS_inverse	GAACACCGCCGAGCACCAAAAACAATCATTAAAAACACAAA
Cj0900c_SE	CGGTACCCGGGGATCCAAAATTACCGGTGTTCTCTCGT
Cj0900c_SE_inverse	GAACTAAAGGGCGCATCAATCATCAATGATGCAAAA
Cj0947c_AS	CGACTCTAGAGGATCCTTTTAAACCGCTTTGGGAAA
Cj0947c_AS_comp	GGGGAAGCTTTCTAGAAACGAACAAGAAAAAGAGCAAA
Cj0947c_AS_inverse	GAACACCGCCGAGCACCCCGCTTACATCTTTTTCA
Cj0947c_SE	CGGTACCCGGGGATCCGGAGCTGAGCTTGTGTTGCTT
Cj0947c_SE_comp	GATTTAGATGTCTAGTGCAGAACAAGAAAGGCAAA
Cj0947c_SE_inverse	GAACTAAAGGGCGCATTGTTTTGTTTTGGCCCTCAAG
Cj0949c_AS	CGACTCTAGAGGATCCTCGCACTTGAAAGTACTGCAAC

Cj0949c_AS	CGACTCTAGAGGATCCTCGCACTTGAAAGTACTGCAAC
Cj0949c_AS_inverse	GAACACCGCCGAGCACCAAATCGCGTATCCAAGT
Cj0949c_AS_inverse	GAACACCGCCGAGCACCAAATCGCGTATCCAAGT
Cj0949c_SE	CGGTACCCGGGGATCCATGCTTTGTCACCCAATGGATG
Cj0949c_SE	CGGTACCCGGGGATCCATGCTTTGTCACCCAATGGATG
Cj0949c_SE_inverse	GAACTAAAGGGCGCATGAGCATTATTTGCCTTTGC
Cj0949c_SE_inverse	GAACTAAAGGGCGCATGAGCATTATTTGCCTTTGC
Cj0977_AS	CGACTCTAGAGGATCCAAGGCTATGCTTGGGCTGATAC
Cj0977_AS_inverse	GAACACCGCCGAGCATCGTCAAAAAGTGCATGAGC
Cj0977_SE	CGGTACCCGGGGATCCGGCTATGAAGCACCCAAAAGAG
Cj0977_SE_inverse	GAACTAAAGGGCGCAGTTGTTAGCACCGATGAGCA
Cj1036c_AS	CGACTCTAGAGGATCCAAGCTTAAATCATAACGCTTCCA
Cj1036c_AS_comp	GGGGAAGCTTTCTAGGACGCCAACCTCGTTTTATT
Cj1036c_AS_inverse	GAACACCGCCGAGCACTTGCACCACTCTTGCTTGA
Cj1036c_SE	CGGTACCCGGGGATCCTCCAAGTCCTGGAAAAATAGGA
Cj1036c_SE_comp	GATTTAGATGTCTAGTGCAATAGCTGCTACGCTTAAA
Cj1036c_SE_inverse	GAACTAAAGGGCGCACAGGATGAATTTTCCGAATTT
Cj1159c_AS	CGACTCTAGAGGATCCAATGTGCAAAAAGCACTAACAA
Cj1159c_AS_inverse	GAACACCGCCGAGCAGCCTATATGATAAATCACGGGAGA
Cj1159c_SE	CGGTACCCGGGGATCCTGTGCTTTGCATTCTATCG
Cj1159c_SE_inverse	GAACTAAAGGGCGCATTTATTGCCTAACAGCTCTAAAAA
Cj1167_AS	CGACTCTAGAGGATCCACCAGGGATTCGTCAGTACATC
Cj1167_AS_inverse	GAACACCGCCGAGCAGGTGTCATTTGGATTTGTTGC
Cj1167_SE	CGGTACCCGGGGATCCACCTCAGCTATTCTTCTACGC
Cj1167_SE_inverse	GAACTAAAGGGCGCAAGAACTCGAAAAAGCCGTGA
Cj1207c_AS	CGACTCTAGAGGATCCTAATTGCTCAATCGCACCTG
Cj1207c_AS_inverse	GAACACCGCCGAGCATTATTTTACCATTAGCGACTTT
Cj1207c_SE	CGGTACCCGGGGATCCTTTGCAATGCCCTAAAATCTG
Cj1207c_SE_inverse	GAACTAAAGGGCGCAGCTTTAGGTGGGGTAAATGGA
Cj1209_AS	CGACTCTAGAGGATCCGCGAATTTCTTCCGGCATTG
Cj1209_AS_inverse	GAACACCGCCGAGCACTGCAAATTCACCTGCAAAA
Cj1209_SE	CGGTACCCGGGGATCCAGAACAAGCCAAAGCTAAAGCC
Cj1209_SE_inverse	GAACTAAAGGGCGCATAACCGAGCAAGCTATGGACA
Cj1211_AS	CGACTCTAGAGGATCCCCTTTGGGGCTTGGGCTTAG
Cj1211_AS_inverse	GAACACCGCCGAGCATGGGTGATAATTCTAAGGCTCAA
Cj1211_SE	CGGTACCCGGGGATCCGCTAGTTTGGCATGGGCTATTG
Cj1211_SE_inverse	GAACTAAAGGGCGCATTTGCTATGGTTTTACCTGTGC
Cj1241_AS	CGACTCTAGAGGATCCAGCACCAAGATCAATGTCTTCG
Cj1241_AS_inverse	GAACACCGCCGAGCATCCTGCTATAAAGCGTGCAA
Cj1241_SE	CGGTACCCGGGGATCCACTCGCCAAACTTAAACCAAGC
Cj1241_SE_inverse	GAACTAAAGGGCGCATTGCCTTTTTCAACCATACCTG
Cj1242_AS	CGACTCTAGAGGATCCTTCTGCTTGACGCATCATCC
Cj1242_AS_inverse	GAACACCGCCGAGCATTGAAATTCATCTGCCGAAGT
Cj1242_SE	CGGTACCCGGGGATCCGCCTTTTTCAACCATACCTGCAC
Cj1242_SE_inverse	GAACTAAAGGGCGCATCAAGCAAATTTACTAACGAAGACA
Cj1255_AS	CGACTCTAGAGGATCCTTTTTGAATTTGAGATCACTTTCTTG
Cj1255_AS_inverse	GAACACCGCCGAGCACCGTTACTCCTGCGATAAGC
Cj1255_SE	CGGTACCCGGGGATCCGAAACACTTTTTAATGCAAAATTAGA
Cj1255_SE_inverse	GAACTAAAGGGCGCACGGACTAGGTGGAAAAAGCA
Cj1335_AS	CGACTCTAGAGGATCCTGCCTTGAAGAGCATCTTTTG
Cj1335_AS_inverse	GAACACCGCCGAGCATTTTGGGTAGGGGTGAAGGT

Cj1335_SE	CGGTACCCGGGGATCCACCTACAACCTGCACCGAAGG
Cj1335_SE_inverse	GAACTAAAGGGCGCACAAAAACATTGAGGCTTTAAACAA
Cj1340c_AS	CGACTCTAGAGGATCCGAGCCGCTTGAGTTGCCTTAG
Cj1340c_AS_inverse	GAACACCGCCGAGCATTGCTCCACCTTCAGTAGCA
Cj1340c_SE	CGGTACCCGGGGATCCATTGCTCTTGAGTGTGCTACGC
Cj1340c_SE_inverse	GAACTAAAGGGCGCAAGCCTTTGCTTATCGTGGA
Cj1341c_AS	CGACTCTAGAGGATCCAGTCCTCGCTCATACTCACTG
Cj1341c_AS_inverse	GAACACCGCCGAGCATCATTAAAGATTGAAGCGTTGG
Cj1341c_SE	CGGTACCCGGGGATCCGAGGATGTCTGGCATAAAGCAG
Cj1341c_SE_inverse	GAACTAAAGGGCGCAATGCAGGCCAAAGGTGAAGTT
Cj1342c_AS	CGACTCTAGAGGATCCCTAACCAAGGCCAATCTTAGC
Cj1342c_AS_inverse	GAACACCGCCGAGCAACCACAAACACCAAGGCTTC
Cj1342c_SE	CGGTACCCGGGGATCCAGCGGGGTTGAAAATGTTGATC
Cj1342c_SE_inverse	GAACTAAAGGGCGCATGTATTGGCAATCGTCCTCA
Cj1356c_AS	CGACTCTAGAGGATCCAGAACGTGCTCAAGGCATACTC
Cj1356c_AS_inverse	GAACACCGCCGAGCACCCGTTAAAGCAAAAAGCAA
Cj1356c_SE	CGGTACCCGGGGATCCGCAGCGGCCAAATGGAATTAAG
Cj1356c_SE_inverse	GAACTAAAGGGCGCATGTGCTTAGCGTAGGTTTTGG
Cj1377c_AS	CGACTCTAGAGGATCCACGCAACCATTGCGCCACTTTC
Cj1377c_AS_comp	GGGGAAGCTTTCTAGCATCGGATTAGGTTTCATTGGA
Cj1377c_AS_inverse	GAACACCGCCGAGCACAAAGCCCCAAATCATAAAGC
Cj1377c_SE	CGGTACCCGGGGATCCTGTGTATAACCACTCCGCTTGC
Cj1377c_SE_comp	GATTTAGATGTCTAGTGGAAGTTCTAAATTTGTTTCATC
Cj1377c_SE_inverse	GAACTAAAGGGCGCATTGTTTGGTTGTGGAGGAT
Cj1383c_AS	CGACTCTAGAGGATCCCACCACTTCCCCAAGTTGAA
Cj1383c_AS_comp	GGGGAAGCTTTCTAGGCCGCTCCTTCTGTATTTCC
Cj1383c_AS_inverse	GAACACCGCCGAGCATGAAAGTAAAAAGCGTATGTATTAAGC
Cj1383c_SE	CGGTACCCGGGGATCCGCCGATTCTTGTGATACAGA
Cj1383c_SE_comp	GATTTAGATGTCTAGGAAGCTAAAAAGCGTAAAATTTCA
Cj1383c_SE_inverse	GAACTAAAGGGCGCATGTTTTGATGCGCAAATTTTA
Cj1388_AS	CGACTCTAGAGGATCCGTCATAAGTGTAAGTCCAAGCC
Cj1388_AS_inverse	GAACACCGCCGAGCATCTCCTGAAGCAGGGTTGAT
Cj1388_SE	CGGTACCCGGGGATCCGCAGTCAAGGGAGAATCTAAAC
Cj1388_SE_inverse	GAACTAAAGGGCGCACGGTGCTATCTTAGAAGAAAATGG
Cj1406c_AS	CGACTCTAGAGGATCCATTGACATGAGCGAGCAAGA
Cj1406c_AS_inverse	GAACACCGCCGAGCACACTTGCACCAAAAAGCAAAA
Cj1406c_SE	CGGTACCCGGGGATCCAGAGCCTTGGAGCTTGTTTAT
Cj1406c_SE_inverse	GAACTAAAGGGCGCAAAAATCGAAAAAGAACTTGATGC
mdaB_AS	CGACTCTAGAGGATCCCTCCTCCTTTGCCTGCCAAG
mdaB_AS_inverse	GAACACCGCCGAGCACACCAAGCTGGCATTGATA
mdaB_SE	CGGTACCCGGGGATCCTGGGTGGAATTTGAGCGTATTC
mdaB_SE_inverse	GAACTAAAGGGCGCATGGTGTATTGGCATTGTCAT
Cj1613c_AS	CGACTCTAGAGGATCCTCACTCATCATCAAGCCCAAGC
Cj1613c_AS_inverse	GAACACCGCCGAGCACGTGTTTTTCATCGGCTTTTT
Cj1613c_SE	CGGTACCCGGGGATCCTCCGCATCTTGTTCAAACCTG
Cj1613c_SE_inverse	GAACTAAAGGGCGCATTGCTCGTATGCACCTTTTG
Cj1658_AS	ATGC AGATCT GAGGGATTAAGTTTCATAGTAAGGA
Cj1658_AS_inverse	ATGC GGATCC ACCGCTTTTGGAGTTTCTTG
Cj1658_SE	ATGC AGATCT GCTCAGCTTTTGGTAGGGTAGA
Cj1658_SE_inverse	ATGC GGATCC GTTTGGCATTGGCTTCTAGG
Cj1661_AS	CGACTCTAGAGGATCCTGCCTAAAACCAACCCCGCTTG

Cj1661_AS_inverse	GAACACCGCCGAGCATAATTTTTCTTCGCCCATGC
Cj1661_SE	CGGTACCCGGGGATCCAACAACATCACCGCACTTGCTC
Cj1661_SE_inverse	GAACTAAAGGGCGCATGGCACAGCACTTTCTCAA
Cj1663_AS	CGACTCTAGAGGATCCAACACAGCGTAACGATCATTGG
Cj1663_AS_inverse	GAACACCGCCGAGCATGCTCTTCATCCATTTGCTCT
Cj1663_SE	CGGTACCCGGGGATCCGCACTGCGTTTAGCCTTGGG
Cj1663_SE_inverse	GAACTAAAGGGCGCATCGCAGATCGAACCCTTATC
cmeA_AS	CGACTCTAGAGGATCCGGCTTGATCAGGATCTGTACCG
cmeA_AS_inverse	GAACACCGCCGAGCACATCAAAAGGAGCTTTTATTTG
cmeA_SE	CGGTACCCGGGGATCCAATGCCGCCTCAACCTGTAAC
cmeA_SE_inverse	GAACTAAAGGGCGCATGGCTTTAAAGTGCCTCAAAT
exbB1_AS	CGACTCTAGAGGATCCCTCTGCTTGCTGCGAACTCTTG
exbB1_AS_comp	GGGGAAGCTTTCTAGGCTGCGAACTCTTGGGTAAT
exbB1_AS_inverse	GAACACCGCCGAGCATGGTATTTTGCAAACGCAAT
exbB1_SE	CGGTACCCGGGGATCCCAATTCTGCTCGCGGTGCGTAC
exbB1_SE_comp	GATTTAGATGTCTAGGCTCGCGGTGCTACTTTTAT
exbB1_SE_inverse	GAACTAAAGGGCGCAGCAAATCACAGCAAGCAAAA
exbB2_AS	CGACTCTAGAGGATCCAAATTTTCATGTTCTTTGGCTTTT
exbB2_AS_comp	GGGGAAGCTTTCTAGCATGCGCAATAAAGGTTGAA
exbB2_AS_inverse	GAACACCGCCGAGCATCGCATCATCAAATTGCTCT
exbB2_SE	CGGTACCCGGGGATCCAATCACGCCCTCTTTGGTAA
exbB2_SE_comp	GATTTAGATGTCTAGGAAGAACAAAAGAGGTAATAATTGTGA
exbB2_SE_inverse	GAACTAAAGGGCGCATTGGCGGGCAATATAGATGT
exbD1_AS	CGACTCTAGAGGATCCTAGCGGAGCACTGAGCGATTG
exbD1_AS_inverse	GAACACCGCCGAGCAGCTGCGAACTCTTGGGTAAT
exbD1_SE	CGGTACCCGGGGATCCAAATGGCTTGAGTTTGCTTGCG
exbD1_SE_inverse	GAACTAAAGGGCGCAAACCAAAGGCAATAAAGAAGAAA
exbD2_AS	CGACTCTAGAGGATCCTTGGTATTGGGTGTGGAGGT
exbD2_AS_inverse	GAACACCGCCGAGCACATGCGCAATAAAGGTTGAA
exbD2_SE	CGGTACCCGGGGATCCTGGCATTATAGCTTTTTGGTG
exbD2_SE_inverse	GAACTAAAGGGCGCACACTTCTTCAAGTGAAAATGC
flaG_AS	CGACTCTAGAGGATCCAGACTTGCTGGAGGATTATCGC
flaG_AS_inverse	GAACACCGCCGAGCATCGCCTTCTTGACCTTGACT
flaG_SE	CGGTACCCGGGGATCCTATATGCTTGTGGCGTGTGG
flaG_SE_inverse	GAACTAAAGGGCGCAACAGCAACGAGGTGTGAGTG
flgD_AS	CGACTCTAGAGGATCCCCGCTACCATAACCACCTTGAG
flgD_AS_comp	GGGGAAGCTTTCTAGAAAGCCCGTGGTATTGACAT
flgD_AS_inverse	GAACACCGCCGAGCAGGTAGCATTGGATTGCTCA
flgD_SE	CGGTACCCGGGGATCCCAACTCCAATGCCAATGCAATG
flgD_SE_comp	GATTTAGATGTCTAGGAGCAAATCAAATCAAGGAAA
flgD_SE_inverse	GAACTAAAGGGCGCACTATGGAGTGGCCAGGAAGA
flgE_AS	CGACTCTAGAGGATCCATCACCGCTATTTGCCGTTGC
flgE_AS_comp	GGGGAAGCTTTCTAGGCGAAAGCGACATAGAAGAAA
flgE_AS_inverse	GAACACCGCCGAGCACCCATAAGCCCAGCAACTCT
flgE_SE	CGGTACCCGGGGATCCCAAGTGGTGGTTCAAGCGATGG
flgE_SE_comp	GATTTAGATGTCTAGTATGCAAAAATGGCTGGACA
flgE_SE_inverse	GAACTAAAGGGCGCAACCGCAAGAAGGCGATAATA
flgE2_AS	CGACTCTAGAGGATCCTGCAGGTTTCAAGTACACGGATG
flgE2_AS_inverse	GAACACCGCCGAGCAGGATATGCATACCTGGATCG
flgE2_SE	CGGTACCCGGGGATCCTCTGGCGTAAGCGGACTACAAG
flgE2_SE_inverse	GAACTAAAGGGCGCAGCAGCTTATTGGGATGCTGT

flgG_AS	CGACTCTAGAGGATCCAACCATTCTGTGGGTCCTATG
flgG_AS_inverse	GAACACCGCCGAGCAACCCATTACCTGCAATAGCC
flgG_SE	CGGTACCCGGGGATCCACTCCAATGCTATTCGCCAAGG
flgG_SE_inverse	GAACTAAAGGGCGCACAAGATGGGCTTGAACAAT
flgG2_AS	CGACTCTAGAGGATCCCGCTGTTGGACGCACACC
flgG2_AS_inverse	GAACACCGCCGAGCAGTCATTGCCAAATCCAAAGG
flgG2_SE	CGGTACCCGGGGATCCAAGGTAAGCGGTGGTTACGATG
flgG2_SE_inverse	GAACTAAAGGGCGCACAATGCTATTCGCCAAGGTT
flgH_AS	CGACTCTAGAGGATCCTCATGTCCAACCTTGCGGTAGG
flgH_AS_comp	GGGGAAGCTTTCTAGTGCTTTAGGCGAAGCTAAGG
flgH_AS_inverse	GAACACCGCCGAGCATTGCTTTGTTTTGGTGCAAG
flgH_SE	CGGTACCCGGGGATCCTCCTCCATTGCCTCTCTAAAGG
flgH_SE_comp	GATTTAGATGTCTAGTGCCATCATTTTTCTCCTTGA
flgH_SE_inverse	GAACTAAAGGGCGCACAACGGAGAGAAGCAAATCA
flgl_AS	CGACTCTAGAGGATCCTTTCATCGCTGGCATCTTTTCC
flgl_AS_comp	GGGGAAGCTTTCTAGTGGCTGCACGATCAAGTAAA
flgl_AS_inverse	GAACACCGCCGAGCATACTGTGCGAGAGTCGATGG
flgl_SE	CGGTACCCGGGGATCCCAGCCAAACTTCCAGCCTTTG
flgl_SE_comp	GATTTAGATGTCTAGCAACCATAAAAACTCCCGAAA
flgl_SE_inverse	GAACTAAAGGGCGCAGGAACAGTGATTGCTGGA
flgK_AS	CGACTCTAGAGGATCCAGGGCGGCTAATTCTTCATTTG
flgK_AS_comp	GGGGAAGCTTTCTAGGCAATTTGCAAAGGATCTGG
flgK_AS_inverse	GAACACCGCCGAGCATGCGTGTTCTGTTGGTAAGG
flgK_SE	CGGTACCCGGGGATCCAACAGGTGGAGTTCAAGTAGGC
flgK_SE_comp	GATTTAGATGTCTAGTGATGGAACAAATAATGCTTATGG
flgK_SE_inverse	GAACTAAAGGGCGCATATCATGCGCCAAATCAATG
flgL_AS	CGACTCTAGAGGATCCCCCATTCTCCCATGCCAGGTG
flgL_AS_comp	GGGGAAGCTTTCTAGAAGCGTGGAGCTGGTAAAAA
flgL_AS_inverse	GAACACCGCCGAGCAACCCCACTATTTCCAGTTGC
flgL_SE	CGGTACCCGGGGATCCTCCAAGCAGCACAGGATGAAGG
flgL_SE_comp	GATTTAGATGTCTAGTTTTTGAACAGTTATTGCTTTTTG
flgL_SE_inverse	GAACTAAAGGGCGCAGAGAGCAGACTCCGAAAGTGA
flgM_AS	CGACTCTAGAGGATCCGCCATCAAGAAAATCTTTGACA
flgM_AS_comp	GGGGAAGCTTTCTAGTTCCGCGATAAGTTTTGTTTT
flgM_AS_inverse	GAACACCGCCGAGCATTTTTTGAGTATCGTTTTGTTTTAGTTTC
flgM_SE	CGGTACCCGGGGATCCGCAGCCAAAGCAAGAAGTTT
flgM_SE_comp	GATTTAGATGTCTAGAAAAGATGCCAGCGATGAAA
flgM_SE_inverse	GAACTAAAGGGCGCAAGCGAGTAAAATCGCAGAGC
flgP_AS	CGACTCTAGAGGATCCATTCTACGGTAAAACGCAAGGG
flgP_AS_comp	GGGGAAGCTTTCTAGACATTTTCGCTTTGCGTCAT
flgP_AS_inverse	GAACACCGCCGAGCAAGCATCTGGAGCCAACATTT
flgP_SE	CGGTACCCGGGGATCCGCAAAGCAGAGGTGGTAAGGG
flgP_SE_comp	GATTTAGATGTCTAGAGGGCGTAATACGAGTGGTG
flgP_SE_inverse	GAACTAAAGGGCGCATGCGCAAGTAAATGGTTTTGA
flgR_AS	CGACTCTAGAGGATCCGCACCAGTAGCACCCACAATG
flgR_AS_comp	GGGGAAGCTTTCTAGCACCCAGTAGCACCCACAATG
flgR_AS_inverse	GAACACCGCCGAGCAGCCATCAATTCCTGGCATA
flgR_SE	CGGTACCCGGGGATCCATCCTTAGCAATGACGCAAAGC
flgR_SE_comp	GATTTAGATGTCTAGTTTACCCTTGCGTTTTACCG
flgR_SE_inverse	GAACTAAAGGGCGCAAATGGCGAATTTGTTTCAG
flhB_AS	CGACTCTAGAGGATCCGCCTACCAAAGAGCGGAAAATG

flhB_AS_comp	GGGGAAGCTTTCTAGAAGGTGGAGCAAATTTGAAAA
flhB_AS_inverse	GAACACCGCCGAGCAAATAGCTGCCGCATCTTGAG
flhB_SE	CGGTACCCGGGGATCCCGTTCTTGCTTGATGCTGATGG
flhB_SE_comp	GATTTAGATGTCTAGCCTAAAGGCGTGGCTGAATA
flhB_SE_inverse	GAACTAAAGGGCGCAGTGGATTTCTCGCTCTTCG
folP_AS	CGACTCTAGAGGATCCCTTCGCCATCGCCCCTAGTG
folP_AS_inverse	GAACACCGCCGAGCACTCACTCCCAGGTCTTGAGC
folP_SE	CGGTACCCGGGGATCCAGCGGGGTGCTTTTAGCTACTC
folP_SE_inverse	GAACTAAAGGGCGCATGCGTATTTTCAAAGCGAGA
hypC_AS	CGACTCTAGAGGATCCTCCAAAACCTCAAGTGGAGAA
hypC_AS_inverse	GAACACCGCCGAGCATCGCCTTGTTTTAAAGGTTCA
hypC_SE	CGGTACCCGGGGATCCAGCTGTCATTTGGACGCTTT
hypC_SE_inverse	GAACTAAAGGGCGCACATGTAGGCGTTGCTATGGA
motAmotB_AS	CGACTCTAGAGGATCCATAAGCTCAAGAACCGATTTTTGA
motAmotB_AS_comp	GGGGAAGCTTTCTAGGCTGTAGCTGAGGTGCTAGG
motAmotB_AS_inverse	GAACACCGCCGAGCA TGCTCTTCAAGTTGTTCCGGT
motAmotB_SE	CGGTACCCGGGGATCCAGGAATGGTGCTTGCAGTTACT
motAmotB_SE_comp	GATTTAGATGTCTAGTGAAGTAAAAGACGATTTGTGTGA
motAmotB_SE_inverse	GAACTAAAGGGCGCA AGCGATAATCAGGTTGCTCTT
P19_AS	ATGC AGATCT AAACAAGCAAGGCTAAAGCAA
P19_AS_inverse	ATGC GGATCC GACGCCATGTTGATGAAGAA
P19_SE	ATGC AGATCT GGCTACTTTCAAACGCACAA
P19_SE_inverse	ATGC GGATCC ACCTCTTGGCTCCATTTCAA
pseB_AS	CGACTCTAGAGGATCCGCATTAGCTGTAGCGGCAAAGG
pseB_AS_comp	GGGGAAGCTTTCTAGTCGCTTTGATCGATGTTTTG
pseB_AS_inverse	GAACACCGCCGAGCATAACACCAAAGCGTGTTCG
pseB_SE	CGGTACCCGGGGATCCTCAAGCCCAAACCTGGCATAACC
pseB_SE_comp	GATTTAGATGTCTAGAGGCAAGTATCAAGCCCAA
pseB_SE_inverse	GAACTAAAGGGCGCAGCCCATGCTCTAGCTCCTAA
pstC_AS	CGACTCTAGAGGATCCAGAAGCTGCCATCACCCTATC
pstC_AS_comp	GGGGAAGCTTTCTAGTGCTTAAAGCAGGAAATCCA
pstC_AS_inverse	GAACACCGCCGAGCAGCTGCCCACTGACTTGAGA
pstC_SE	CGGTACCCGGGGATCCGTGTTACGCCAAGCGAAGAAAG
pstC_SE_comp	GATTTAGATGTCTAGTGATTTGGCAAAAAGTGGTG
pstC_SE_inverse	GAACTAAAGGGCGCAGCAGATGGCACGAGTAAACA
trpF_AS	CGACTCTAGAGGATCCGCAAGCCCGTGTGGACCTG
trpF_AS_comp	GGGGAAGCTTTCTAGCATTGCACTTTCAGGCAAAA
trpF_AS_inverse	GAACACCGCCGAGCATCCATTACCGCCCTTTAAAT
trpF_SE	CGGTACCCGGGGATCCACAGCCAATAAAGCAAGTTCGC
trpF_SE_comp	GATTTAGATGTCTAGGTAGAATGCAAGGGGCAAAA
trpF_SE_inverse	GAACTAAAGGGCGCAATTAGCCGGAGGCATAGGTT
truB_AS	CGACTCTAGAGGATCCTGTCAACAAGCTCAAGCTCATC
truB_AS_inverse	GAACACCGCCGAGCATTGGCGAAAGGATCAAGAGT
truB_SE	CGGTACCCGGGGATCCCCGTCTTGCTTATGTTGCCATC
truB_SE_inverse	GAACTAAAGGGCGCAAGCGCATTAAAGAAGGCAAA
ak233-SE	GCAAGAGTTTTGCTTATGTTAGCAG
ak234-SE	GAAATGGGCAGAGTGTATTCTCCG
ak235-SE	GTGCGGATAATGTTGTTTCTG
AR56-AS	CATCCTCTTCGTCTTGGTAGC
Cat-AS	TGCGCCCTTTAGTTCCCTAAAGGGT
Cat-SE	TGCTCGGCGGTGTTCCCTTTCCAAG

Kan-AS	AAGCTTTCTAGACATCTAAATC
Kan-SE	GATAAACCCAGCGAACCATT

^a Restriction sites in bold.

Table S3. Genes selected for isogenic deletion mutant construction. Significantly differentially expressed genes from microarray analysis upon oxidant exposure or in a $\Delta perR$ background were targeted for deletion in *C. jejuni*. Genes successfully deleted are presented. Genes were attempted to be deleted at least 3 times.

Gene name	Microarray analysis ^a (condition assayed ^b)				Mutant constructed?
	H ₂ O ₂	CHP	MND	$\Delta perR$	
<i>cj0416</i>	+ ^c	+	+	+	Yes
<i>mdaB</i>	+	+	+	+	Yes
<i>rpmF</i>	+	+	+	+	No
<i>cj1485c</i>	+	+	+	+	No
<i>cj0672</i>	+	+	+	+	Yes
<i>cj0148c</i>	+	+	+	+	Yes
<i>cj0202c</i>	+	+	+	+	Yes
<i>cj0344</i>	+	+	+	+	Yes
<i>maf4</i>	+	+	+	+	Yes
<i>cj0176c</i>	+	+	+	+	No
<i>cj0819</i>	+	+	+	+	Yes
<i>cj0253</i>	+	+	+	+	Yes
<i>folP</i>	+	+	+	+	Yes
<i>cj0877c</i>	+	+		+	No
<i>cj0295</i>	+	+		+	Yes
<i>cj0524</i>	+	+		+	Yes
<i>ald</i>	+		+	+	Yes
<i>cj1534c</i>	+		+	+	No
<i>cj0988c</i>	+		+	+	No
<i>cj1241</i>	+			+	Yes
<i>flaG</i>	+			+	Yes
<i>cj0878</i>	+			+	No
<i>cj1388</i>	+			+	Yes
<i>cj1383c</i>	- ^d	-	-	+	Yes
<i>chuC</i>	-	-	-	+	Yes
<i>chuD</i>	-	-		+	Yes
<i>aroC</i>	-	-		+	No
<i>chuB</i>	-	-		+	Yes
<i>flhB</i>	-		-	+	Yes
<i>cfbpB</i>	-			+	Yes
<i>chaN</i>	-			+	Yes
<i>exbB1</i>	-			+	Yes

<i>cj1386</i>	-			+	Yes
<i>cj1710c</i>	-			+	No
<i>cj0135</i>		+	+	+	No
<i>cj0260c</i>		+	+	+	Yes
<i>cj1667c</i>		+	+	+	No
<i>cj1159c</i>		+		+	Yes
<i>cj0554</i>		+		+	Yes
<i>cj1714</i>		+		+	No
<i>grpE</i>		+		+	No
<i>chuA</i>		-		+	Yes
<i>cj0786</i>			+	+	Yes
<i>rpmJ</i>			+	+	No
<i>cj1558</i>			+	+	No
<i>tonB2</i>			-	+	Yes
<i>fliK</i>			-	+	Yes
<i>exbD2</i>			-	+	Yes
<i>exbD1</i>				+	Yes
<i>cj1658</i>				+	Yes
<i>chuZ</i>				+	Yes
<i>cj1661</i>				+	Yes
<i>tonB3</i>				+	Yes
<i>exbB2</i>				+	Yes
<i>p19</i>				+	Yes
<i>cfbpA</i>				+	Yes
<i>ceuC</i>				+	No
<i>cj1384c</i>				+	No
<i>trxB</i>				+	No
<i>cfrA</i>				+	Yes
<i>cj0818</i>				+	Yes
<i>cj0040</i>				+	Yes
<i>cj0045c</i>				+	Yes
<i>flgD</i>				+	Yes
<i>flgK</i>				+	Yes
<i>cj0587</i>				+	Yes
<i>cj1664</i>				+	No
<i>pstC</i>				+	Yes
<i>cj1295</i>				+	No
<i>flgE</i>				+	Yes
<i>flgL</i>				+	Yes
<i>pstS</i>				+	No
<i>cj1663</i>				+	Yes
<i>cj0062c</i>				+	Yes
<i>cj0814</i>				+	Yes

<i>flgC</i>				+	No
<i>cj0428</i>				+	No
<i>flgP</i>				+	Yes
<i>pseB</i>				+	Yes
<i>flgI</i>				+	Yes
<i>asd</i>				+	No
<i>flgB</i>				+	No
<i>flgH</i>				+	Yes
<i>cj1294</i>				+	No
<i>flgG</i>				+	Yes
<i>flgG2</i>				+	Yes
<i>flgE2</i>				+	Yes
<i>flgR</i>				+	Yes
<i>cj0073c</i>	+			-	Yes
<i>spoT</i>	-			-	Yes
<i>cj1340c</i>		-		-	Yes
<i>maf7</i>				-	Yes
<i>maf6</i>				-	Yes
<i>fdxA</i>				-	No
<i>cj1345c</i>				-	No
<i>trpF</i>	+	+	+		Yes
<i>cj0309c</i>	+	+	+		Yes
<i>hypC</i>	+	+			Yes
<i>cj1677</i>	+		+		No
<i>cj1623</i>	+		+		Yes
<i>ccoQ</i>	+		+		Yes
<i>cft</i>	+				No
<i>cj0034c</i>	+				No
<i>cj1484c</i>	+				Yes
<i>cj1406c</i>	+				Yes
<i>cj1255</i>	+				Yes
<i>cj1036c</i>	+				Yes
<i>ktrB</i>	-	-	-		No
<i>tonB1</i>	-				Yes
<i>cfbpC</i>	-				Yes
<i>cj1356c</i>		+	+		Yes
<i>cj0011c</i>		+	+		No
<i>cj0900c</i>		+	+		Yes
<i>cj1211</i>		+	-		No
<i>cj0171</i>		+			Yes
<i>hrcA</i>		+			No
<i>dnaK</i>		+			No
<i>cj0561c</i>		+			Yes

<i>flgM</i>	+		Yes
<i>cj0367c</i>	+		Yes
<i>cj1207c</i>	+		Yes
<i>uvrC</i>	-	-	No
<i>rrc</i>		+	Yes
<i>cj1167</i>		+	Yes
<i>cj0741</i>		+	Yes
<i>acnB</i>		+	Yes
<i>truB</i>		-	Yes
<i>cj1343c^e</i>			No
<i>dprA</i>			Yes
<i>cj0949c</i>			Yes
<i>acs</i>			Yes
<i>ceuB</i>			Yes
<i>murE</i>			No
<i>cj1377c</i>			Yes
<i>cj1375</i>			No
<i>cj0947c</i>			Yes
<i>cj0494</i>			Yes
<i>cj0977</i>			Yes
<i>cj0044c</i>			Yes
<i>cj1242</i>			Yes
<i>cj1209</i>			Yes
<i>cj0385c</i>			Yes
<i>cj0020c</i>			Yes
<i>cj0178</i>			Yes
<i>cj0358</i>			Yes
<i>motAB</i>			Yes

^a Genes considered significantly differentially expressed with fold changes of at least 1.5 fold, $p < 10^{-4}$.

^b microarray conditions: H₂O₂, hydrogen peroxide; CHP, cumene hydroperoxide; MND, menadione sodium bisulphite.

^c '+' denotes gene is significantly upregulated.

^d '-' denotes gene is significantly downregulated.

^e Genes included in the mutant construction which were slightly below the cutoff threshold or of functional interest.

Table S4. Sensitivity of wild-type *C. jejuni*, isogenic deletion mutants and corresponding complemented strains to H₂O₂, cumene hydroperoxide or menadione bisulphite. The diameter of the zone of inhibition is represented as the mean clear zone ± standard error for each strain (in mm) after exposure to 10 µl of 3% H₂O₂, 3% cumene hydroperoxide, or 90 mM menadione bisulphite. Each experiment was repeated in quadruplicate. Values were considered significant (*) at *P* < 0.001 using Bayesian statistical analysis.

Strain	Oxidant ^a		
	H ₂ O ₂	CHP	MND
<i>C. jejuni</i> NCTC11168	19.08 ± 0.19	24.50 ± 0.22	31.63 ± 0.36
Detoxification			
ΔCj0358	16.44 ± 0.72*	23.50 ± 0.53	29.63 ± 0.80
ΔCj0358+Cj0358	17.40 ± 0.40	22.50 ± 0.52	31.93 ± 1.13
Δrrc	21.08 ± 1.08	23.92 ± 1.08	34.50 ± 1.83
Δrrc+rrc	18.55 ± 0.38	20.94 ± 0.67	32.27 ± 1.60
Cation Transport/Binding Proteins			
ΔchaN	17.37 ± 0.30	21.47 ± 0.17*	29.83 ± 0.61
ΔchaN+chaN	17.26 ± 0.75	22.82 ± 0.66	34.08 ± 1.97
ΔexbB1	16.90 ± 0.31*	23.13 ± 0.64	28.30 ± 0.58
ΔexbB1+exbB1	17.33 ± 0.60	22.63 ± 0.37	32.90 ± 1.16
ΔcfbpB	19.30 ± 0.25	25.33 ± 0.83	29.98 ± 1.52
ΔexbB2	18.20 ± 0.31	24.37 ± 0.87	28.20 ± 0.50
ΔexbB2+exbB2	18.17 ± 0.17	23.53 ± 0.44	30.90 ± 0.90
ΔtonB3	18.16 ± 0.76	22.33 ± 0.58	28.83 ± 0.76
ΔtonB1	20.53 ± 0.17	24.37 ± 0.07	31.07 ± 0.32
ΔtonB1+ΔtonB2	21.10 ± 0.44	23.77 ± 0.67	33.27 ± 1.46
ΔtonB2	21.10 ± 0.46*	26.47 ± 0.67	33.07 ± 1.39
ΔtonB2+ΔtonB3	19.83 ± 0.49	24.20 ± 0.56	32.10 ± 1.33
ΔceuB	19.15 ± 0.17	23.95 ± 0.45	31.60 ± 1.51
ΔceuE	18.77 ± 0.29	22.90 ± 0.15	31.83 ± 0.61
ΔcfrA	19.40 ± 0.49	23.57 ± 0.35	32.37 ± 0.30
ΔcfbpC	19.08 ± 0.27	25.18 ± 0.64	30.50 ± 1.53
ΔcfbpA	19.13 ± 0.23	24.33 ± 0.57	30.27 ± 0.54
ΔchuA	17.70 ± 0.67	23.27 ± 0.43	31.47 ± 1.22
ΔchuB	20.13 ± 0.54	23.58 ± 0.48	35.08 ± 1.20

$\Delta chuC$	19.33 ± 1.42	24.83 ± 0.85	34.29 ± 2.01
$\Delta chuD$	18.88 ± 0.28	22.68 ± 0.50	34.30 ± 1.50
$\Delta Cj0045c$	19.15 ± 0.09	24.25 ± 0.88	30.38 ± 1.43
$\Delta Cj0178$	20.00 ± 0.25	25.17 ± 0.69	33.40 ± 0.83
$\Delta exbD1$	18.23 ± 0.29	24.07 ± 0.79	28.57 ± 0.83
$\Delta exbD2$	19.61 ± 0.97	22.33 ± 0.59	31.50 ± 0.66
$\Delta chuZ$	20.30 ± 0.38	23.50 ± 0.17	34.90 ± 0.20
$\Delta Cj1658$	19.10 ± 0.15	22.90 ± 0.20	32.17 ± 0.44
$\Delta Cj1661$	19.10 ± 0.17	23.64 ± 0.76	33.00 ± 1.15
$\Delta Cj1663$	17.83 ± 0.52	23.67 ± 0.74	28.67 ± 0.38
$\Delta p19$	19.67 ± 0.20	23.87 ± 0.47	32.67 ± 0.88
$\Delta p19 + \Delta Cj1658$	20.43 ± 0.54	25.38 ± 0.95	33.93 ± 0.07
Energy Metabolism			
Δald	17.70 ± 0.95	22.57 ± 0.23	32.07 ± 1.55
$\Delta Cj0073c$	17.43 ± 0.23	22.33 ± 0.68	29.67 ± 1.67
$\Delta Cj0073c + Cj0073c$	17.95 ± 0.65	23.43 ± 0.77	34.33 ± 1.92
$\Delta Cj1377c$	20.70 ± 1.07	25.30 ± 0.56	35.57 ± 2.50
$\Delta Cj1377c + Cj1377c$	17.93 ± 0.32	23.17 ± 0.42	32.83 ± 0.24
$\Delta hypC$	19.40 ± 0.53	26.03 ± 0.92	33.03 ± 2.40
$\Delta acnB$	21.22 ± 0.45*	23.28 ± 0.24	36.28 ± 0.72
$\Delta acnB + acnB$	20.27 ± 0.25	21.33 ± 0.44	33.44 ± 1.49
$\Delta ccoQ$	17.83 ± 0.33	24.10 ± 0.91	28.97 ± 0.73
$\Delta Cj1207c$	18.27 ± 0.27	24.73 ± 0.79	29.43 ± 0.47
Surface Structures			
$\Delta flaG$	19.17 ± 0.53	26.08 ± 1.06	35.50 ± 1.53
$\Delta flgD$	20.47 ± 0.47	26.27 ± 0.36	36.50 ± 0.31*
$\Delta flgD + flgD$	18.40 ± 0.31	23.60 ± 0.80	31.70 ± 0.58
$\Delta flgE$	20.17 ± 1.29	24.93 ± 1.12	35.85 ± 1.35
$\Delta flgE + flgE$	17.93 ± 0.37	22.53 ± 0.17	35.20 ± 1.05
$\Delta flgE2$	19.64 ± 0.72	24.57 ± 0.62	33.75 ± 1.04
$\Delta flgG$	20.28 ± 0.71	25.80 ± 0.40	34.50 ± 1.07
$\Delta flgG2$	19.83 ± 1.07	25.63 ± 1.01	32.96 ± 1.31
$\Delta flgH$	21.00 ± 0.42*	26.55 ± 0.55	37.00 ± 1.30*
$\Delta flgH + flgH$	19.07 ± 0.37	23.37 ± 0.23	32.33 ± 1.19
$\Delta flgI$	21.35 ± 0.43*	26.00 ± 0.30	35.38 ± 1.89
$\Delta flgI + flgI$	18.95 ± 0.34	23.95 ± 0.21	31.70 ± 1.13
$\Delta flgK$	21.53 ± 0.13*	26.13 ± 0.46	34.90 ± 2.04
$\Delta flgK + flgK$	19.67 ± 0.17	24.73 ± 0.15	31.10 ± 0.49
$\Delta flgL$	21.00 ± 0.23*	25.08 ± 0.32	34.67 ± 1.73
$\Delta flgL + flgL$	18.33 ± 1.17	21.25 ± 0.12	30.67 ± 0.10
$\Delta flgM$	20.27 ± 0.50	24.33 ± 0.33	36.43 ± 1.40

<i>ΔflgM+flgM</i>	19.27 ± 0.48	24.20 ± 0.67	32.93 ± 2.02
<i>ΔflgP</i>	21.63 ± 1.24*	26.25 ± 0.86	35.25 ± 2.21
<i>ΔflgP+flgP</i>	19.94 ± 0.59	25.74 ± 0.62	33.08 ± 1.26
<i>ΔflgR</i>	20.47 ± 0.75	25.63 ± 0.34	36.78 ± 1.35*
<i>ΔflgR+flgR</i>	17.90 ± 0.61	22.17 ± 0.35	32.83 ± 0.87
<i>ΔflhB</i>	19.80 ± 0.44	23.18 ± 0.32	36.53 ± 1.86*
<i>ΔflhB+flhB</i>	18.18 ± 0.76	20.86 ± 0.82	32.15 ± 0.99
<i>ΔfliK</i>	20.43 ± 0.11	26.20 ± 0.45	35.95 ± 1.86
<i>ΔfliK+fliK</i>	17.83 ± 0.17	22.73 ± 0.62	32.67 ± 0.52
<i>Δmaf4</i>	18.97 ± 0.33	22.63 ± 0.35	29.77 ± 0.91
<i>Δmaf6</i>	18.40 ± 0.15	22.87 ± 0.17	30.93 ± 0.41
<i>Δmaf7</i>	19.50 ± 0.50	23.03 ± 0.15	29.90 ± 1.17
<i>ΔpseB</i>	20.50 ± 0.32	25.92 ± 0.53	35.95 ± 1.40*
<i>ΔpseB+pseB</i>	18.95 ± 1.13	23.67 ± 1.20	26.94 ± 2.96
Drug Efflux			
<i>ΔCj0309c</i>	19.71 ± 0.95	25.05 ± 0.51	34.53 ± 1.41
<i>ΔcmeA</i>	20.79 ± 0.85	25.60 ± 1.26	34.58 ± 1.15
Membranes, Lipoproteins and Porins			
<i>ΔCj0385c</i>	19.07 ± 0.32	23.30 ± 0.21	30.67 ± 0.67
<i>ΔCj0587</i>	18.93 ± 0.13	23.73 ± 1.02	30.03 ± 0.15
<i>ΔCj0818</i>	19.40 ± 0.21	23.63 ± 0.81	29.73 ± 0.72
<i>ΔCj1211</i>	20.27 ± 0.26	22.93 ± 0.30	34.27 ± 1.43
<i>ΔCj1356c</i>	20.35 ± 0.96	23.55 ± 0.63	33.03 ± 1.44
<i>ΔCj1484c</i>	20.60 ± 0.50	25.67 ± 0.57	32.17 ± 1.66
Hypothetical Unknown Proteins			
<i>ΔCj0040</i>	18.98 ± 0.79	25.93 ± 0.64	34.55 ± 1.63
<i>ΔCj0044c</i>	19.17 ± 0.44	22.80 ± 0.38	32.53 ± 0.77
<i>ΔCj0148c</i>	18.90 ± 0.30	22.50 ± 0.40	33.57 ± 0.72
<i>ΔCj0171</i>	19.92 ± 1.28	25.17 ± 1.16	34.00 ± 1.75
<i>ΔCj0202c</i>	18.77 ± 0.37	22.27 ± 0.32	31.53 ± 0.62
<i>ΔCj0202c+Cj0202c</i>	17.77 ± 0.39	23.60 ± 0.55	31.10 ± 1.46
<i>ΔCj0253</i>	18.88 ± 1.31	25.00 ± 0.85	36.04 ± 1.76
<i>ΔCj0260c</i>	17.42 ± 0.19	21.67 ± 0.44*	30.87 ± 0.75
<i>ΔCj0260c+Cj0260c</i>	17.50 ± 0.35	22.83 ± 0.57	30.85 ± 0.35
<i>ΔCj0344</i>	20.92 ± 0.14*	23.92 ± 0.45	33.33 ± 1.01
<i>ΔCj0344+Cj0344</i>	18.12 ± 0.73	21.25 ± 1.24	30.36 ± 1.33
<i>ΔCj0416</i>	18.30 ± 0.60	23.47 ± 1.30	32.00 ± 0.93
<i>ΔCj0524</i>	20.53 ± 0.48	24.03 ± 0.72	32.18 ± 0.76
<i>ΔCj0554</i>	18.57 ± 0.23	23.07 ± 0.75	34.07 ± 0.41
<i>ΔCj0741</i>	17.80 ± 0.27	22.40 ± 0.62	28.90 ± 0.59

Δ Cj0786	18.27 \pm 0.15	23.23 \pm 0.65	31.30 \pm 0.56
Δ Cj0814	17.27 \pm 0.54	23.90 \pm 0.35	29.33 \pm 1.07
Δ Cj0814+Cj0814	17.64 \pm 0.39	23.80 \pm 0.34	33.38 \pm 1.62
Δ Cj0819	19.03 \pm 0.10	23.50 \pm 0.87	31.33 \pm 0.46
Δ Cj0900c	19.17 \pm 0.40	22.08 \pm 0.45	30.92 \pm 0.99
Δ Cj0977	19.77 \pm 0.35	22.50 \pm 0.28	34.00 \pm 1.00
Δ Cj1159c	19.71 \pm 0.90	22.25 \pm 0.40*	30.42 \pm 0.72
Δ Cj1209	20.60 \pm 0.40	24.17 \pm 0.19	36.00 \pm 1.08
Δ Cj1242	19.77 \pm 0.33	22.73 \pm 0.03	32.63 \pm 0.67
Δ Cj1383c	20.30 \pm 0.40	23.30 \pm 0.45	30.73 \pm 0.66
Δ Cj1383c+Cj1383c	18.44 \pm 0.51	21.11 \pm 0.19	31.61 \pm 1.42
Δ mdaB	18.40 \pm 1.02	26.43 \pm 0.43	33.00 \pm 1.62
Miscellaneous			
Δ Cj0062c	21.73 \pm 0.21*	26.00 \pm 0.39	35.67 \pm 0.33
Δ Cj0062c+Cj0062c	19.44 \pm 0.39	25.20 \pm 0.50	33.63 \pm 1.80
Δ Cj0295	19.10 \pm 0.31	23.80 \pm 0.31	34.10 \pm 0.76
Δ Cj0947c	23.94 \pm 1.20*	26.44 \pm 0.80	43.00 \pm 3.76*
Δ Cj0947c+Cj0947c	20.66 \pm 1.50	25.55 \pm 0.50	32.33 \pm 0.19
Δ Cj1036c	19.17 \pm 0.20	22.27 \pm 0.26	30.53 \pm 0.50
Δ Cj1036c+Cj1036c	18.73 \pm 0.48	23.83 \pm 0.48	33.83 \pm 1.91
Δ Cj1388	21.17 \pm 0.41*	25.38 \pm 0.61	35.33 \pm 2.20
Δ Cj1623	18.33 \pm 0.50	21.95 \pm 0.19*	34.78 \pm 2.50
Δ Cj1623+Cj1623	17.44 \pm 0.49	22.70 \pm 0.39	32.63 \pm 1.44
Δ folP	19.06 \pm 0.36	22.11 \pm 0.39	33.39 \pm 0.25
Δ pstC	20.75 \pm 0.31*	27.25 \pm 1.00*	32.33 \pm 1.24
Δ pstC+pstC	20.60 \pm 0.25*	25.30 \pm 0.41	36.84 \pm 1.79
Δ spoT	20.07 \pm 0.41	25.00 \pm 0.17	33.83 \pm 1.04
Δ trpF	20.04 \pm 0.68	25.67 \pm 0.96	34.94 \pm 2.24
Δ trpF+trpF	18.77 \pm 0.45	23.85 \pm 0.34	32.72 \pm 1.07
Δ truB	19.43 \pm 0.49	25.37 \pm 0.36	34.00 \pm 1.31
Δ acs	19.12 \pm 0.24	23.89 \pm 0.27	33.74 \pm 1.12
Δ Cj0494	20.47 \pm 0.15	24.83 \pm 0.71	31.47 \pm 1.36
Δ Cj0561c	18.63 \pm 0.23	22.65 \pm 0.60	30.08 \pm 0.43
Δ Cj0672	18.60 \pm 0.29	22.93 \pm 0.63	30.33 \pm 1.02
Δ Cj0949c	20.57 \pm 0.41	23.57 \pm 0.19	33.90 \pm 0.90
Δ Cj1167	18.40 \pm 0.70	23.10 \pm 0.40	33.07 \pm 1.18
Δ Cj1241	19.30 \pm 0.38	24.65 \pm 0.65	30.08 \pm 0.82
Δ Cj1255	19.33 \pm 0.84	25.35 \pm 1.30	33.38 \pm 1.81
Δ Cj1340c	18.80 \pm 0.67	22.77 \pm 0.32	29.43 \pm 0.81
Δ Cj1406c	19.60 \pm 0.20	22.43 \pm 0.30	35.33 \pm 1.70
Δ dprA	18.70 \pm 0.49	24.77 \pm 0.82	28.83 \pm 0.49

^a H₂O₂, hydrogen peroxide; CHP, cumene hydroperoxide; MND, menadione

Table S5. Sensitivity of wild-type *C. jejuni*, isogenic single and double deletion mutants to H₂O₂, cumene hydroperoxide or menadione bisulphite in the presence of 20 mM sodium fumarate. The diameter of the zone of inhibition is represented as the mean clear zone ± standard error for each strain (in mm) after exposure to 10 µl of 3% H₂O₂, 3% cumene hydroperoxide, or 90 mM menadione bisulphite. Each experiment was repeated in at least quadruplicate. Values were considered significant (*) at *P* < 0.05 using one way ANOVA.

Strain	Fumarate	H ₂ O ₂	Oxidant ^a	MND
	(+/-)		CHP	
<i>C. jejuni</i> NCTC11168	-	18.34 ± 0.32	23.33 ± 0.20	26.59 ± 0.41
<i>C. jejuni</i> NCTC11168	+	19.00 ± 0.26	23.25 ± 0.24	25.99 ± 0.61
Detoxification				
Δ <i>sodB</i>	-	22.24 ± 0.29*	nd	34.00 ± 0.70*
Δ <i>sodB</i>	+	22.41 ± 0.11*	nd	33.38 ± 0.55*
Surface Structures				
Δ <i>flgD</i>	-	20.54 ± 0.40*	24.99 ± 0.82*	33.27 ± 1.56*
Δ <i>flgD</i>	+	nd	nd	28.83 ± 1.26
Δ <i>flgD</i> Δ <i>ccoQ</i>	-	19.30 ± 0.35	23.43 ± 0.35	26.23 ± 0.63
Δ <i>flgH</i>	-	20.50 ± 0.25*	25.57 ± 0.19*	29.81 ± 0.41*
Δ <i>flgH</i>	+	20.30 ± 0.22*	25.23 ± 0.24*	26.43 ± 0.77
Δ <i>flgH</i> Δ <i>ccoQ</i>	-	21.30 ± 0.52*	25.00 ± 0.34*	24.00 ± 0.52
Δ <i>flgP</i>	-	21.50 ± 0.97*	25.21 ± 0.23*	28.88 ± 0.66
Δ <i>flgP</i>	+	21.08 ± 1.25*	25.50 ± 0.83*	26.89 ± 0.31
Δ <i>flhB</i>	-	20.63 ± 0.23*	23.30 ± 0.14	28.94 ± 0.45*
Δ <i>flhB</i>	+	20.47 ± 0.22*	23.33 ± 0.17	26.21 ± 0.66
Δ <i>flhB</i> Δ <i>ccoQ</i>	-	20.60 ± 0.27*	22.33 ± 0.20	23.36 ± 1.05*
Δ <i>maf7</i>	-	21.91 ± 0.75*	24.16 ± 0.83	28.46 ± 0.53
Δ <i>maf7</i>	+	21.25 ± 0.92*	23.92 ± 0.58	27.79 ± 0.56
Δ <i>motAB</i>	-	20.80 ± 0.12*	24.76 ± 0.09*	30.02 ± 0.92*
Δ <i>motAB</i>	+	20.54 ± 0.18*	24.50 ± 0.10	24.17 ± 0.67
Δ <i>motAB</i> Δ <i>ccoQ</i>	-	19.92 ± 0.17	24.58 ± 0.28	24.04 ± 0.22
Δ <i>motAB</i> + <i>motAB</i>	-	17.87 ± 0.27	22.55 ± 0.21	29.12 ± 0.30*

$\Delta ccoQ::kan$	-	19.22 ± 0.34	23.44 ± 0.38	25.38 ± 0.59
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^a H₂O₂, hydrogen peroxide; CHP, cumene hydroperoxide; MND, menadione

Nd, not determined

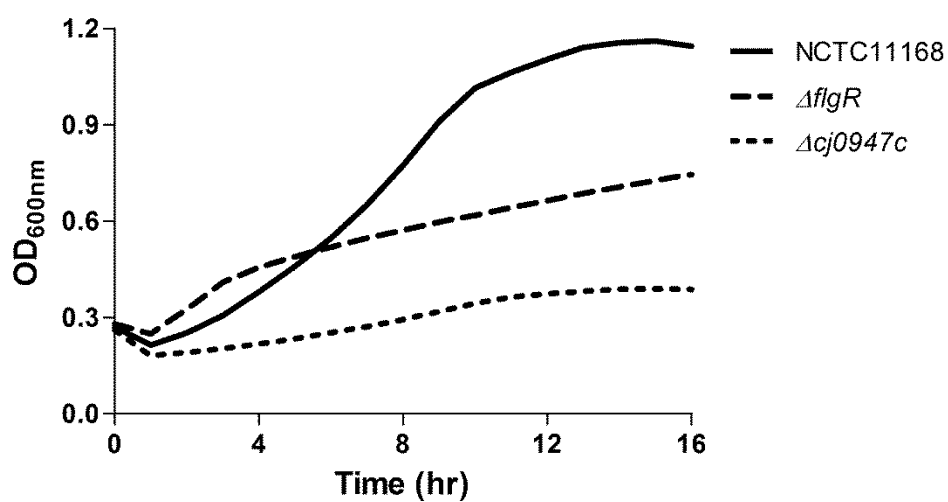


Figure S1. Growth of *C. jejuni* NCTC11168, $\Delta flgR$, and $\Delta cj0947c$ in MH media over 16 hours. OD_{600nm} readings were taken every 15 min using a 96 well plate reader with continual shaking at 37 °C.

References

1. **Naikare H, Butcher J, Flint A, Xu J, Raymond K, Stintzi A.** 2013. *C. jejuni* ferric-enterobactin receptor CfrA is TonB3 dependent and mediates iron acquisition from structurally diverse catechol siderophores. *Metalomics* **Submitted**.
2. **Palyada K, Threadgill D, Stintzi A.** 2004. Iron acquisition and regulation in *Campylobacter jejuni*. *J Bacteriol* **186**:4714-4729.
3. **Stintzi A, Marlow D, Palyada K, Naikare H, Panciera R, Whitworth L, Clarke C.** 2005. Use of genome-wide expression profiling and mutagenesis to study the intestinal lifestyle of *Campylobacter jejuni*. *Infect Immun* **73**:1797-1810.
4. **Ridley KA, Rock JD, Li Y, Ketley JM.** 2006. Heme utilization in *Campylobacter jejuni*. *J Bacteriol* **188**:7862-7875.
5. **Yao R, Alm RA, Trust TJ, Guerry P.** 1993. Construction of new *Campylobacter* cloning vectors and a new mutational cat cassette. *Gene* **130**:127-130.
6. **Reid AN, Pandey R, Palyada K, Naikare H, Stintzi A.** 2008. Identification of *Campylobacter jejuni* genes involved in the response to acidic pH and stomach transit. *Appl Environ Microbiol* **74**:1583-1597.