

Supplemental Table S1: Bacterial strains and plasmids

Strain or Plasmid	Description	Reference
<i>Strain</i>		
<i>A. oris</i> MG-1	Parental strain; wild-type	(2)
<i>A. oris</i> CW1	$\Delta galK$; an isogenic derivative of MG-1	(3)
<i>A. oris</i> WU51	$\Delta gspA$; an isogenic derivative of CW1	(4)
<i>A. oris</i> WU72	$\Delta lcpA$; an isogenic derivative of CW1	(4)
<i>A. oris</i> D0299	$\Delta lcpB$; an isogenic derivative of CW1	This study
<i>A. oris</i> D1578	$\Delta lcpD$; an isogenic derivative of CW1	This study
<i>A. oris</i> lcp Δ 3	$\Delta lcpA\Delta lcpB\Delta lcpD$	This study
<i>A. oris</i> MR108	$\Delta VKOR$; an isogenic derivative of CW1	(5)
<i>E. coli</i> C3209/ Shuffle®	Derived from <i>E. coli</i> K12 parental strains, engineered to form disulfide bonds in the cytoplasm; expresses T7 RNAP.	(6)
<i>Plasmid</i>		
pCWU2	<i>E. coli</i> cloning vector, <i>Actinomyces</i> suicide vector, KmR	
pCWU10	<i>Actinomyces/E. coli</i> shuttle vector, KmR	(7)
pMCSG7	Expression vector for protein purification	(8)
pKO-0299	pCWU2 derived KO plasmid $\Delta lcpB$	This study
pKO-1578	pCWU2 derived KO plasmid $\Delta lcpD$	This study
eLcpA	pMCSG7 expressing LcpA(78-370)	This study
eLcpA(R149A)	rLcpA with the mutation R149A	This study
eLcpA(Δ s-s)	rLcpA with the mutation C179A/C365A	This study
pLcpA	pCWU10 expressing LCP from native promoter	This study
pLcpA(R128A)	pLcpA with the mutation R128A	This study
pLcpA(R149A)	pLcpA with the mutation R149A	This study
pLcpA(R266A)	pLcpA with the mutation R266A	This study
pLcpA(C365A)	pLcpA with the mutation C365A	This study
pLcpA(C179/365A)	pLcpA with the mutation C179/365A	This study
pVKOR-2HA	pCWU10 expressing VKOR with double C-terminal influenza hemagglutinin (HA) tag	(5)
pGspA Δ cws-H6	pCWU10 expressing GspA lacking the cell wall sorting signal (CWS) with Hisx6 tag	(7)
rGspA	pMCSG7 expressing GspA(31-286)	This study

Supplemental References

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