Supplementary Figure 1. Localization of chlamydial MreB_GFPsw proteins in *C. trachomatis*. HeLa cells were infected with *C. trachomatis* transformants containing aTc-inducible vectors encoding MreB_GFPsw proteins. At 12 hpi, expression of the GFP sandwich fusions was induced with 10 nM aTc, and the samples were fixed (3.2% Formaldehyde, 0.022% Glutaraldehyde in 1X PBS) at 16 hpi for 2 min and permeabilized with 90% methanol. The samples were stained for major outer membrane protein (MOMP; red) and GFP (green). Images were acquired on a Zeiss LSM 800 confocal microscope. Scale bar = 1 μm

Supplementary Figure 2. Protein sequence alignment of the N-terminus of MreB from diverse *Chlamydia* phylum members. The extended N-terminus of chlamydial MreB is conserved across *Chlamydia*. (A) The alignment was performed with Clustal Omega (https://www.ebi.ac.uk/Tools/msa/clustalo/) and represented with ESPript 3.0 (http://espript.ibcp.fr). (B) The AMPHIPASEEK prediction of amphipathicity for the *Waddlia* MreB ortholog. The blue and red residues represent the extended N-terminus and predicted amphipathic helix, respectively.

Supplementary Figure 3. Test of complementation of chlamydial MreB in *E. coli* and interaction between chlamydial and *E. coli* MreBs by BACTH. An *E. coli mreB*-deficient mutant (P2733) strain was transformed with an empty arabinose-inducible vector (A) or vectors encoding *E. coli* MreB (B), chlamydial MreB (C), or truncated chlamydial MreB lacking the extended N-terminal region (D). Stationary phase cultures were diluted to 1:50 in LB media containing 50 μg/mL spectinomycin, 25 μg/mL tetracycline, and 34 μg/mL chloramphenicol and cultured at 37℃ with 225 rpm shaking for 2 h. The cells were then induced or not with 0.01% (w/v) arabinose. After induction, 4 μL of each culture at 2 h and 6 h were spotted under a 1% LB agar pad and covered with a coverslip. Images were acquired on a Zeiss Imager.Z2 equipped with an Apotome2 using a 100X objective. The arrows indicate the cells

complemented by the induction of *E. coli* MreB. Scale bar = 2 μm. (E) BACTH assays were carried out to test interactions between chlamydial MreB and *E. coli* MreB. DHT1 *E. coli* were co-transformed with plasmids encoding the indicated fusion proteins and plated on M63 minimal medium containing 50 μg/mL ampicillin, 25 μg/mL kanamycin, 0.5 mM IPTG, 40 μg/mL X-gal, 0.04% casamino acid, and 0.2% maltose. The plates were incubated at 30℃ for 5-7 days. A positive control is the interaction between T25-zip and T18-zip. A negative control is the lack of interaction between T25 and T18-chlamydial MreB and T18-*E. coli* MreB. These tests were performed a minimum of two times. (F) Western blotting was performed to test the expression of chlamydial MreB in strains used in the complementation assay depicted in (C&D). Whole cell lysates from cultures tested in the complementation assay were separated by SDS-PAGE and transferred to a PVDF membrane. The chlamydial MreB was detected with rabbit anti-MreB primary antibody and IRDye goat anti-rabbit 800CW (LI-COR, Lincoln, NE).

Supplementary Figure 4. Localization of chlamydial N-terminal MreB-GFP fusion proteins in an *E. coli* Δ*mreB* mutant strain (P2733). The *E. coli* Δ*mreB* mutant (P2733) was transformed with the arabinose-inducible vectors encoding GFP fused with diverse N-terminal regions of chlamydial MreB. Samples were prepared as described in the legend to Figure 4 with the membrane labeled with FM4-64. Images were acquired on a Zeiss Imager.Z2 equipped with an Apotome2 using a 100X objective. Scale bar = 2 μm.

Supplementary Figure 5. Localization of the N-terminus of *C. suis* MreB-GFP fusion peptides in *C. trachomatis* and *E. coli.* (A) The predicted amphipathicity of the N-terminus of *C. suis* (Cs) MreB. (B) A helical wheel prediction is shown. (C) The $CsMreB_{1\text{-}23aa}$-GFP peptide is localized in the cytosol in *E. coli*. In contrast, the $CsMreB_{1\text{-}28aa}$-GFP peptide is localized at the membrane at the poles of *E. coli*. These patterns are the same as those of *C. trachomatis* (see Figure 3). (D, E) HeLa cells were infected with *C. trachomatis* transformants

containing aTc-inducible vectors encoding CsMreB$_{1\text{-}23aa}$-GFP or CsMreB$_{1\text{-}28aa}$-GFP fusion proteins. Expression of these fusion proteins was induced at 6 hpi or 16 hpi with 10 nM aTc. At 10.5 hpi or 20 hpi, the samples were fixed (3.2% Formaldehyde, 0.022% Glutaraldehyde in 1X PBS) for 2 min and permeabilized with 90% methanol (MeOH) for 1 min. These samples were stained for major outer membrane protein (MOMP; red) with GFP imaged in green. The arrowheads indicate the CsMreB$_{1\text{-}23aa}$-GFP localized at the membrane (see also Figure 4). Images were acquired on a Zeiss LSM 800 confocal microscope with 63X objective. Scale bar = 0.5 μm (10.5 hpi) or 1 μm (20 hpi).

Supplementary Figure 6. The localization of various truncated chlamydial MreBs in *C. trachomatis* L2. (A) Representation of the various truncated chlamydial MreBs tested. The blue and red residues represent the extended N-terminus and predicted amphipathic helix, respectively. (B) *C. trachomatis* serovar L2 transformants containing aTc-inducible vectors encoding the truncated MreBs were used to infect HeLa cells. At 16 hpi, expression of the MreB_6xH constructs was induced with 10 nM aTc, and these samples were fixed (3.2% Formaldehyde, 0.022% Glutaraldehyde in 1X DPBS) at 20 hpi for 2 min and permeabilized with 90% methanol. The samples were stained for major outer membrane protein (MOMP; red) and six histidine tag (green). Images were acquired on a Zeiss Imager.Z2 equipped with an Apotome2 using a 100X objective. The white box represents the cells which are zoomed in at the upper right. Scale bar = 2 μm.

Supplementary Table 1. List of Plasmids, Strains, and Primers Used in the Study

Construct Plasmid	Relevant genotype	Ori	Source of Reference
pASK-GFP-mKate-L2 (pTLR2)	*bla* P$_{tet}$::*gfp*	ColE1	(1)
pTLR2-*mreB*_6xH	*bla* P$_{tet}$::*Ctr_mreB*_6xH	ColE1	This study
pTLR2-*mreB_67*_6xH	*bla* P$_{tet}$::ΔN66nt *Ctr_mreB*_6xH	ColE1	This study

pTLR2-*mreB_85*_6xH	*bla* P*tet*::ΔN84nt *Ctr_mreB*_6xH	ColE1	This study
pTLR2-*mreB_97*_6xH	*bla* P*tet*::ΔN96nt *Ctr_mreB*_6xH	ColE1	This study
pTLR2-*mreB-gfp*_sw	*bla* P*tet*::*Ctr_mreB-gfp_sw*	ColE1	This study
pTLR2-*mreB_67-gfp*_sw	*bla* P*tet*::ΔN66nt *Ctr_mreB-gfp_sw*	ColE1	This study
pTLR2-*mreB_85-gfp*_sw	*bla* P*tet*::ΔN84nt *Ctr_mreB-gfp_sw*	ColE1	This study
pTLR2-*mreB_97-gfp*_sw	*bla* P*tet*::ΔN96nt *Ctr_mreB-gfp_sw*	ColE1	This study
pBAD33	*cat* P*ara*	p15A	(2)
pBAD33-*Ec_mreB*	*cat* P*ara*::*Ec_mreB*	p15A	This study
pBAD33-*mreB*	*cat* P*ara*::*Ctr_mreB*	p15A	This study
pBAD33-*mreB*_67	*cat* P*ara*::ΔN66nt *Ctr_mreB*	p15A	This study
pBAD33G	*cat* P*ara*::*gfp*	p15A	This study
pBAD33G-*mreB*1-96nt	*cat* P*ara*::*Ctr_mreB*1-96nt-*gfp*	p15A	This study
pBAD33G-*mreB*1-84nt	*cat* P*ara*::*Ctr_mreB*1-84nt-*gfp*	p15A	This study
pBAD33G-*mreB*1-69nt	*cat* P*ara*::*Ctr_mreB*1-69nt-*gfp*	p15A	This study
pBAD33G-*mreB*1-69nt duplicate	*cat* P*ara*::*Ctr_mreB*1-69nt *Ctr_mreB*1-69nt -*gfp*	p15A	This study
pBAD33G-*mreB*67-96nt	*cat* P*ara*::*Ctr_mreB*67-96nt-*gfp*	p15A	This study
pBAD33G-*mreB*67-96nt duplicate	*cat* P*ara*::*Ctr_mreB*67-96nt *Ctr_mreB*67-96nt-*gfp*	p15A	This study
pBAD33G-*Ec_mreB*	*cat* P*ara*::*Ec_mreB-gfp*	p15A	This study
pBAD33G-*Ec_mreB*_22	*cat* P*ara*::ΔN21nt *Ec_mreB-gfp*	p15A	This study
pBAD33G-*mreB*1-84nt-*Ec_mreB*_22	*cat* P*ara*::*Ctr_mreB*1-84nt-ΔN21nt *Ec_mreB-gfp*	p15A	This study
pBAD33G-*mreB*1-69nt-*Ec_mreB*_22	*cat* P*ara*::*Ctr_mreB*1-69nt-ΔN21nt *Ec_mreB-gfp*	p15A	This study
pBAD33G-L7K, L22R *mreB*$_{1\text{-}69nt}$	*cat* P*ara*::L7K, L22R *Ctr_mreB*$_{1\text{-}69nt}$-*gfp*	p15A	This study
pBAD33G-L7K, L22R, F25K *mreB*$_{1\text{-}69nt}$	*cat* P*ara*::L7K, L22R, F25K *Ctr_mreB*$_{1\text{-}84nt}$-*gfp*	p15A	This study
pBAD33G-Cs*mreB*$_{1\text{-}69nt}$	*cat* P*ara*::*C. suis_mreB*$_{1\text{-}69nt}$-*gfp*	p15A	This study
pBAD33G-Cs*mreB*$_{1\text{-}84nt}$	*cat* P*ara*::*C. suis_mreB*$_{1\text{-}84nt}$-*gfp*	p15A	This study
pBAD33G-L7K,	*cat* P*ara*::L7K, L22R *Ctr_mreB*$_{1\text{-}69nt}$- ΔN21nt	p15A	This study

L22R *mreB*$_{1\text{-}69nt\text{-}EcmreB\_22}$	*Ec_mreB-gfp*		
pBAD33G-L7K, L22R, F25K *mreB*$_{1\text{-}84nt}$	*cat* P*ara*::L7K, L22R, F25K *Ctr_mreB*$_{1\text{-}84nt}$- ΔN21nt *Ec_mreB-gfp*	p15A	This study
pBOMB4-Tet	*bla* P*tet*::*mCherry* P*Nmen*::*gfp*	pUC19	(3)
pBOMB-G-Tet	*bla* P*tet*::*mCherry*	pUC19	This study
pBOMB-G-Tet-*mreB*1-69nt-*gfp*	*bla* P*tet*::*Ctr_mreB*1-69nt-*gfp*	pUC19	This study
pBOMB-G-Tet-*mreB*1-84nt-*gfp*	*bla* P*tet*::*Ctr_mreB*1-84nt-*gfp*	pUC19	This study
pBOMB-G-Tet-L7K, L22R *mreB*1-69nt-*gfp*	*bla* P*tet*::L7K, L22R *Ctr_mreB*1-69nt-*gfp*	pUC19	This study
pBOMB-G-Tet-L7K, L22R *mreB*1-84nt-*gfp*	*bla* P*tet*::L7K, L22R, F25K *Ctr_mreB*1-84nt-*gfp*	pUC19	This study
pBOMB-G-Tet-Cs*mreB*1-69nt-*gfp*	*bla* P*tet*::*C. suis_mreB*1-69nt-*gfp*	pUC19	This study
pBOMB-G-Tet-Cs*mreB*1-84nt-*gfp*	*bla* P*tet*::*C. suis_mreB*1-84nt-*gfp*	pUC19	This study
pKT25	*aph* P*lac*::*t25*	p15A	(4)
pKT25-*mreB*	*aph* P*lac*::*t25-Ctr_mreB*	p15A	(5)
pKT25-*mreB*_67	*aph* P*lac*::*t25*-ΔN66nt *Ctr_mreB*	p15A	This study
pKT25-*mreB*_85	*aph* P*lac*::*t25*-ΔN84nt *Ctr_mreB*	p15A	This study
pKT25-*mreB*_97	*aph* P*lac*::*t25*-ΔN96nt *Ctr_mreB*	p15A	This study
pKT25-*Ec_mreB*	*aph* P*lac*::*t25-Ec_mreB*$_{SW}$	p15A	(6)
pKT25-zip	*aph* P*lac*::*t25-zip*	p15A	(4)
pUT18C	*bla* P*lac*::*t18*	ColE1	(4)
pUT18C-*mreB*	*bla* P*lac*::*t18-Ctr_mreB*	ColE1	(5)
pUT18C-*mreB*_67	*bla* P*lac*::*t18*-ΔN66nt *Ctr_mreB*	ColE1	This study
pUT18C-*mreB*_85	*bla* P*lac*::*t18*-ΔN84nt *Ctr_mreB*	ColE1	This study
pUT18C-*mreB*_97	*bla* P*lac*::*t18*-ΔN96nt *Ctr_mreB*	ColE1	This study
pUT18C-*rodZ*	*bla* P*lac*::*t18-Ctr_rodZ*	ColE1	(7)
pUT18C-*ftsK*	*bla* P*lac*::*t18-Ctr_ftsK*	ColE1	(5)
pUT18C-*ftsK*N	*bla* P*lac*::*t18*-N-terminus of *Ctr_ftsK*	ColE1	(5)
pUT18C-*Ec_mreB*	*bla lacI*^{q} P*lac*::*t18-Ec_mreB*$_{SW}$	ColE1	(6)
pUT18C-zip	*bla* P*lac*::*t18-zip*	ColE1	(4)
pFB112	*tet sdiA*	ColE1	(8)
pFB124	*aadA* cI857(Ts) PλR::*mreC mreD*-LE	pSC101	(8)

***E. coli* Strain**	**Relevant genotype**	**Source of Reference**
MG1655	F^{-}, lambda^{-}, *rph-1*	Lab strain
FB17	*dadR trpE trpA tna mreBCD<> frt*	(8)
DHT1	F^{-} *glnV44* (AS) *recA1 endA1 gyrA96* (Nal^{R}) *thi-1 hsdR17 spoT1 rfbD1 cya-854 ilv-691 ::Tn10 (TetR)*	(9)
P2733	FB17 pFB112 pFB124	(8)

Primer name	Sequence	Features	Usage
mreB 5'/pTLR2/LIC_F	tttgtttaactttaagaaggagata ATGAGCCCATACCGCAGC	lower case for plasmid overlap construction	for amplification of *mreB* into pTLR2
mreB6XH/pTLR2/R	ccatttttcacttcacaggtcaacc ttaatggtgatggtgatggtg TACTAAACTCTCTTTTCGTTTCTTCAATTG	lower case for plasmid overlap construction, adds 6xH to *mreB* sequence	for amplification of *mreB* into pTLR2
mreB_1_5'/pBAD33/F	ttcgagctcggtacccggggatcct tttgtttaactttaagaaggagatataca ATGAGCCCATACCGCAGC	lower case for plasmid overlap construction, adds Shine-Dalgano (SD) sequence	for amplification of *mreB* into pBAD33
mreB_67_5'/pBAD33/F	ttcgagctcggtacccggggatcct tttgtttaactttaagaaggagatatacaatg GGTCGTTTCGATCGTGTATTTAATTTTTTTTC	lower case for plasmid overlap construction, adds Shine-Dalgano (SD) sequence	for amplification of ΔN66nt *mreB* into pBAD33
mreB 3'/pBAD33/LIC_R	ctagaggatccccgggtaccgagct TCATACTAAACTCTCTTTTCGTTTC	lower case for plasmid overlap construction	for amplification of *mreB*s into pBAD33
EcmreB/pBAD33/F	gctcggtacccggggatcct tttgtttaactttaagaaggagatataca ATGTTGAAAAAATTTCGTG	lower case for plasmid overlap construction, adds Shine-Dalgano (SD) sequence	for amplification of *Ec_mreB* into pBAD33
EcmreB/pBAD33/R	caagcttgcatgcctgcagg TTACTCTTCGCTGAACAGG	lower case for plasmid overlap construction	for amplification of *Ec_mreB* into pBAD33
mreB/pBAD33G/F	tgggctagcgaattcgagct tttgtttaactttaagaaggagatataca ATGAGCCCATACCGCAGC	lower case for plasmid overlap construction, adds Shine-Dalgano (SD) sequence	for amplification of *mreB_1-96nt* into pBAD33G
mreB1-96nt/pBAD33G/R	gtcgactctagaggatcccc c AAAAAAATTAAATACACGATCGAAACG	lower case for plasmid overlap construction	for amplification of *mreB_1-96nt* into pBAD33G
Ctr L2/mreB/pBAD/5'	TATATGGTACCTGATTAACTTTATAAGGAGGAAAAACATATGAGCCCATACCGCAGCTTATAT	Underline for KpnI site	for amplification of *mreB*_1-69nt and 1-84nt into pBAD vectors
Ctr L2/mreB_69/pBAD/3'	CGCCCTCTAGAACCCAACGCCTTGTTATACAGACGGTTAGA	Underline for XbaI site	for amplification of *mreB*_1-69nt into

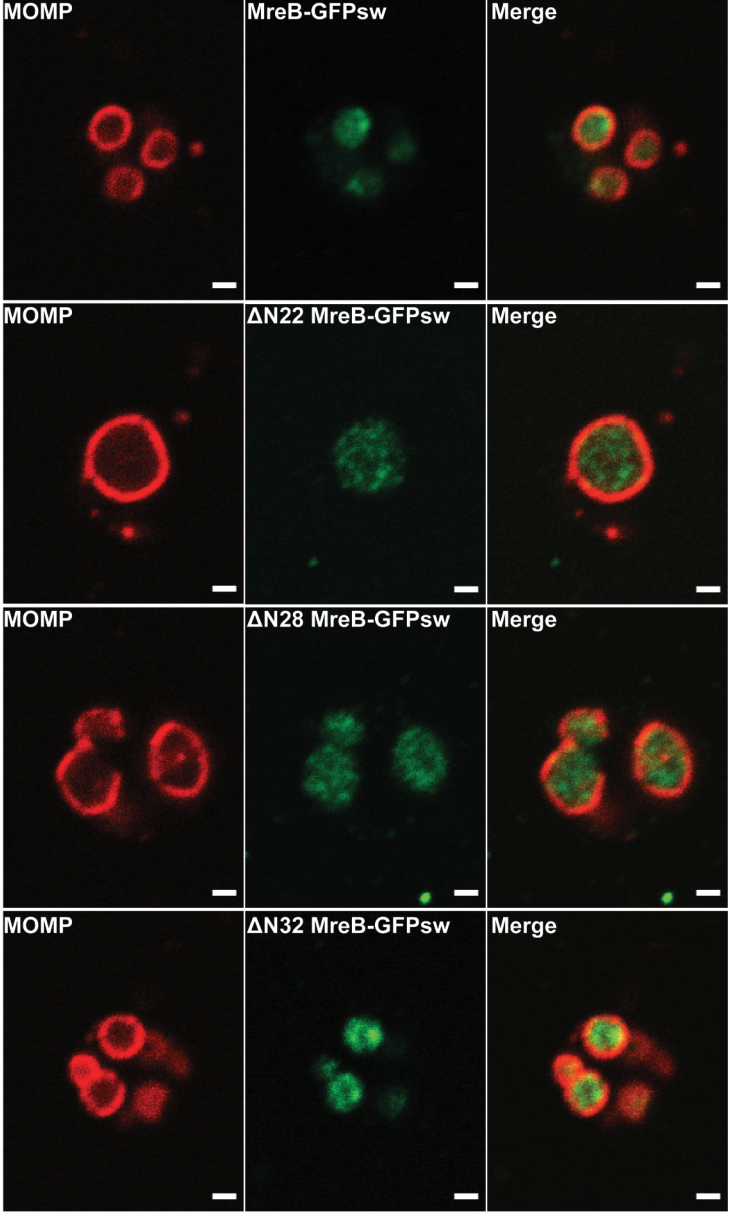
			pBAD vectors
Ctr L2/mreB_84/pBAD/3'	CGCCCTCTAGA**T**ACACGATCGAAACG ACCCAACGCCTTGTTATAC	Underline for XbaI site	for amplification of *mreB*_1-84nt into pBAD vectors
mreB_67-84D/pBAD33/F	gctcggtacccggggatcct tttgtttaactttaagaaggagatataca ATGGGTCGTTTCGATCGTG	lower case for plasmid overlap construction, adds Shine-Dalgano (SD) sequence	for amplification of *mreB_67*-84nt-gfp from gBlock
GFP/pBAD33/R	caagcttgcatgcctgcagg TTATTTGTATAGTTCATCCATGCCATG	lower case for plasmid overlap construction	for amplification of *mreB_67*-84nt-gfp from gBlock
Ec mreB/pBAD/5'	CCCCCGAGCTCTGATTAACTTTATAAG GAGGAAAAACATA**T**GCTGAAAAAATT TCGTGGCATGT	Underline for SacI site	for amplification of Ec_*mreB* into pBAD33
Ec mreB_22/pBAD/5'	CCCCCGAGCTCTGATTAACTTTATAAG GAGGAAAAACATA**T**GTTCTCCAATGA CTTGTCCATTGA	Underline for SacI site	for amplification of ΔN21nt Ec_*mreB* into pBAD33
Ec mreB/pBAD33G/3'	ATAATGTCGAC**C**TCTTCGCTGAACAG GTCGCCGCCGTGCATGTCGATC	Underline for SalI site	for amplification of Ec_*mreB* into pBAD33G
mreB/pBOMB/F	gatctaaagaggagaaaggatctgc ATGAGCCCATACCGCAG	lower case for plasmid overlap construction	for amplification of *mreB*_1-69nt and 1-84nt fused with *gfp* into pBOMB-G-Tet
GFP/pBOMB/R	tttgaatggtcgaccggtac TTATTTGTATAGTTCATCCATGCCATG	lower case for plasmid overlap construction	for amplification of *mreB*_1-69nt and 1-84nt fused with *gfp* into pBOMB-G-Tet
mreB_4/T25/F	ctgcagggtcgactctagag AGCCCATACCGCAGCTTATATAAG	lower case for plasmid overlap construction	for amplification of *mreB* into pKT25
mreB_67/T25/F	ctgcagggtcgactctagag GGTCGTTTCGATCGTGTATTTAATTTTT TTTC	lower case for plasmid overlap construction	for amplification of ΔN66nt

			mreB into pKT25
mreB_85/T25/F	ctgcagggtcgactctagag TTTAATTTTTTTTCCGGG	lower case for plasmid overlap construction	for amplification of ΔN84nt *mreB* into pKT25
mreB_97/T25/F	ctgcagggtcgactctagag TCCGGGAATGTTGGTATC	lower case for plasmid overlap construction	for amplification of ΔN96nt *mreB* into pKT25
mreB_1101/(pKT25)/R	tcacgacgttgtaaaacgacggccg TCATACTAAACTCTCTTTTCGTTTC	lower case for plasmid overlap construction	for amplification of *mreBs* into pKT25
mreB_4/T18/F	actgcaggtcgactctagag AGCCCATACCGCAGCTTATATAAG	lower case for plasmid overlap construction	for amplification of *mreB* into pUT18C
mreB_67/T18/F	actgcaggtcgactctagag GGTCGTTTCGATCGTGTATTTAATTTTTTTTC	lower case for plasmid overlap construction	for amplification of ΔN66nt *mreB* into pUT18C
mreB_85/T18/F	actgcaggtcgactctagag TTTAATTTTTTTTCCGGG	lower case for plasmid overlap construction	for amplification of ΔN84nt *mreB* into pUT18C
mreB_97/T18/F	actgcaggtcgactctagag TCCGGGAATGTTGGTATC	lower case for plasmid overlap construction	for amplification of ΔN96nt *mreB* into pUT18C
mreB_1101/(pUT18C)/R	accatattacttagttatatcgatg TCATACTAAACTCTCTTTTCGTTTC	lower case for plasmid overlap construction	for amplification of *mreBs* into pUT18C
Ct009/rodZ/BACTH/5'BamHI	ATATAGGATCCA**G**GTAGAGCAAACCAGGGGAATTAC	Underline for BamHI site	for amplification of *rodZ*
Ct009/rodZ/BACTH/3'KpnI	AGGGTGGTACC**T**TA**G**AAAAGGTTGAATAGATTCCCTAG	Underline for KpnI site	for amplification of *rodZ*
Ct739/ftsK/BACTH/5'XbaI	ACTAGCTGGTTCTAGAT**G**GAAAAGAACGGAAGAAA	Underline for XbaI site	for amplification of *ct739*(*Ctr_ftsK*)
Ct739/ftsK/BACTH/3'KpnI	CACAGCTAGAGGTACCAT**T**TAATCGTCCTGATTTGA	Underline for KpnI site	for amplification of

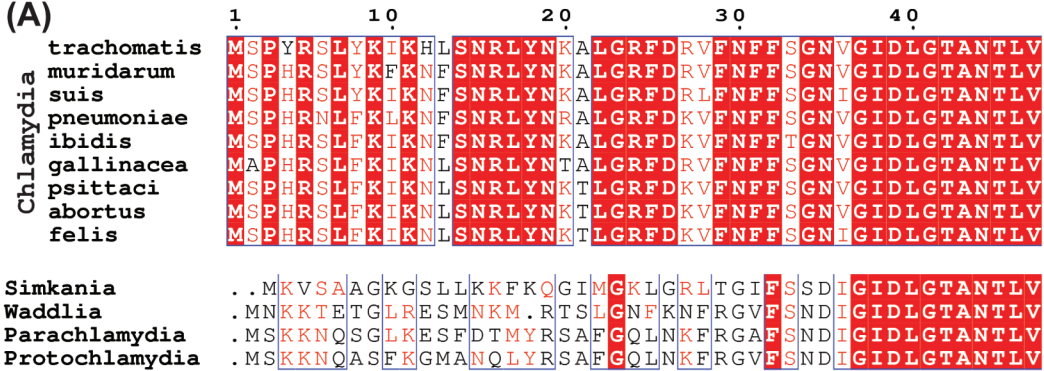
			ct739(*Ctr_fts K*)
Ct739/ftsKN/BACTH/5'XbaI	ACTAGTCTAGAT**G**GAAAAGAACGGAAGAAA	Underline for XbaI site	for amplification of N-terminus of *ct739*(*Ctr_fts K*)
Ct739/ftsKN/BACTH/3'KpnI	CTAGAGGTACCAT**T**TGAGAAATTTTAGGAGA	Underline for KpnI site	for amplification of N-terminus of *ct739*(*Ctr_fts K*)
mreB67 5'/pTLR2/LIC_F	tttgtttaactttaagaaggagata ATGGGTCGTTTCGATCGTG	lower case for plasmid overlap construction	for amplification of ΔN66nt *mreB* into pTLR2
mreB85 5'/pTLR2/LIC_F	tttgtttaactttaagaaggagata ATGTTTAATTTTTTTTCCGGGAATG	lower case for plasmid overlap construction	for amplification of ΔN84nt *mreB* into pTLR2
mreB_97_5'/pTLR2/F	tttgtttaactttaagaaggagata atgTCCGGGAATGTTGGTATC	lower case for plasmid overlap construction	for amplification of ΔN96nt *mreB* into pTLR2
gfp/pTLR2-mreB/LIC F	ttatccgttaggtggaggtagt AGTAAAGGAGAAGCACTTTTC	lower case for plasmid overlap construction	for amplification of *gfp* into pTLR2
gfp/pTLR2-mreB/LIC R	cctgatcactacctcc GAGTCCGGACTTGTATAGTTC	lower case for *mreB* 3' insert DNA overlap construction	for amplification of *gfp* into pTLR2
mreB 5'/pTLR2/LIC_R2	cctttactactacctcc ACCTAACGGATAAGCAGAACCTATAG	lower case for *gfp* insert DNA overlap construction	for amplification of N-terminus of *mreB* into pTLR2
mreB 3'/pTLR2/LIC_F2	caagtccggactc *ggaggtagt* GATCAGGAATTGGAGATG	lower case for *gfp* insert DNA overlap construction, adds link residues, GGS	for amplification of C-terminus of *mreB* into pTLR2
Ec mreB/BACTH/5' Bam	CCTTGGGATCCT**C**TGAAAAAATTTCGTGGCATGT	Underline for BamHI site	for amplification of Ec_*mreB*
Ec mreB/BACTH/3'	ATATTGAGCTC**T**TA**C**TCTTCGCTGAACAGGTCGCC	Underline for SacI site	for amplification

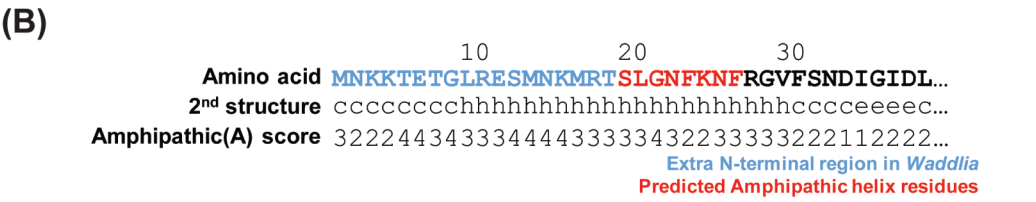
Sacstp			of Ec_*mreB*
Ec mreB/BACTH/3' Sac	TATATGAGCTCCCCTCTTCGCTGAACA GGTCGCC	Underline for SacI site	for amplification of Ec_*mreB*

1. Wickstrum J, Sammons LR, Restivo KN, Hefty PS. 2013. Conditional gene expression in Chlamydia trachomatis using the tet system. PLoS One 8:e76743.
2. Guzman LM, Belin D, Carson MJ, Beckwith J. 1995. Tight regulation, modulation, and high-level expression by vectors containing the arabinose PBAD promoter. J Bacteriol 177:4121-30.
3. Bauler LD, Hackstadt T. 2014. Expression and targeting of secreted proteins from Chlamydia trachomatis. J Bacteriol 196:1325-34.
4. Karimova G, Ullmann A, Ladant D. 2001. Protein-protein interaction between Bacillus stearothermophilus tyrosyl-tRNA synthetase subdomains revealed by a bacterial two-hybrid system. J Mol Microbiol Biotechnol 3:73-82.
5. Ouellette SP, Karimova G, Subtil A, Ladant D. 2012. Chlamydia co-opts the rod shape-determining proteins MreB and Pbp2 for cell division. Mol Microbiol 85:164-78.
6. Bendezu FO, Hale CA, Bernhardt TG, and de Boer PA. 2009. RodZ (YfgA) is required for proper assembly of the MreB actin cytoskeleton and cell shape in *E.coli*. EMBO J. 28:193-204.
7. Ouellette SP, Rueden KJ, Gauliard E, Persons L, de Boer PA, Ladant D. 2014. Analysis of MreB interactors in Chlamydia reveals a RodZ homolog but fails to detect an interaction with MraY. Front Microbiol 5:279.
8. Bendezu FO, de Boer PA. 2008. Conditional lethality, division defects, membrane involution, and endocytosis in mre and mrd shape mutants of Escherichia coli. J Bacteriol 190:1792-811.
9. Dautin N, Karimova G, Ullmann A, Ladant D. 2000. Sensitive genetic screen for protease activity based on a cyclic AMP signaling cascade in Escherichia coli. J Bacteriol 182:7060-6.

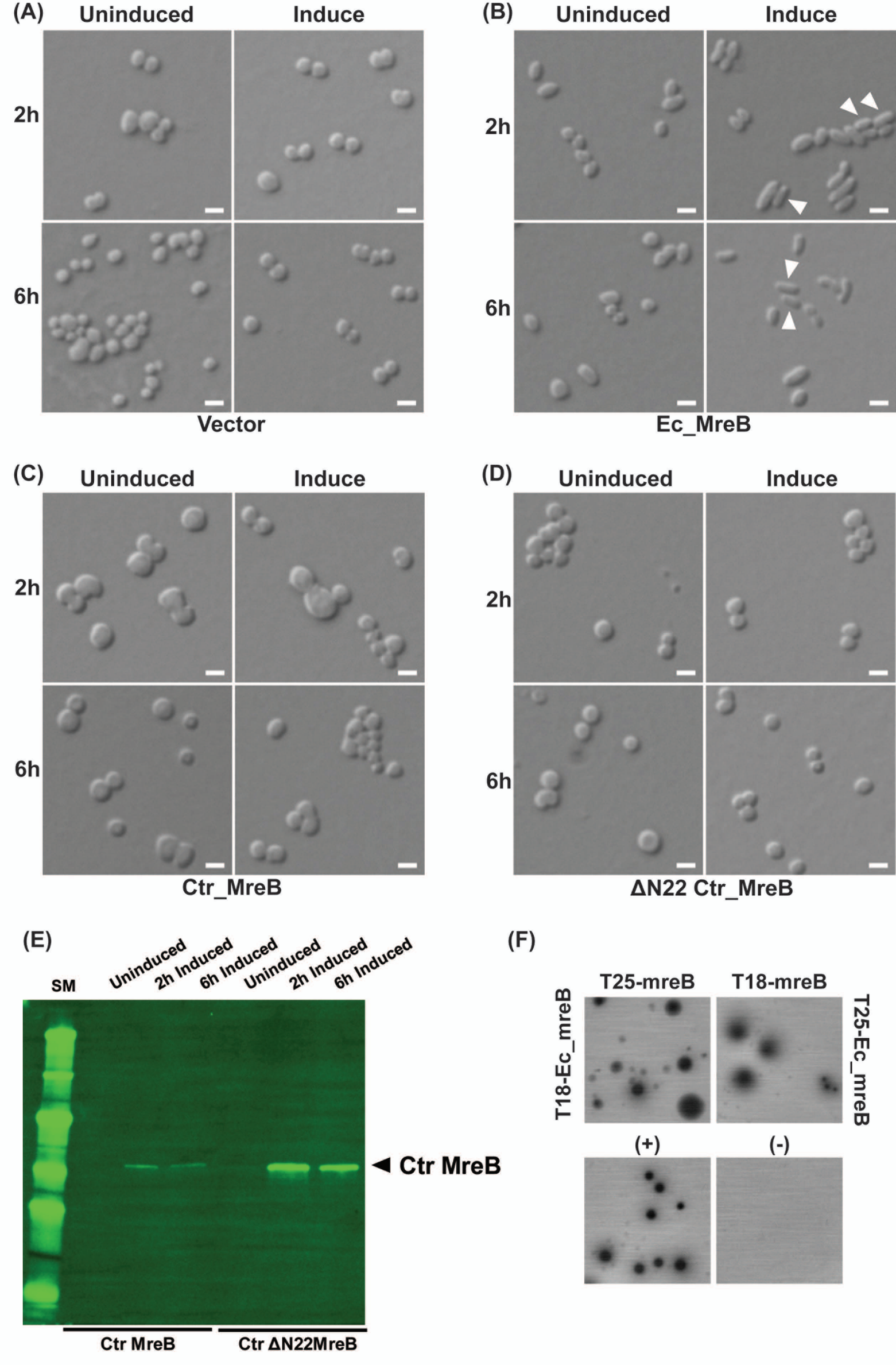


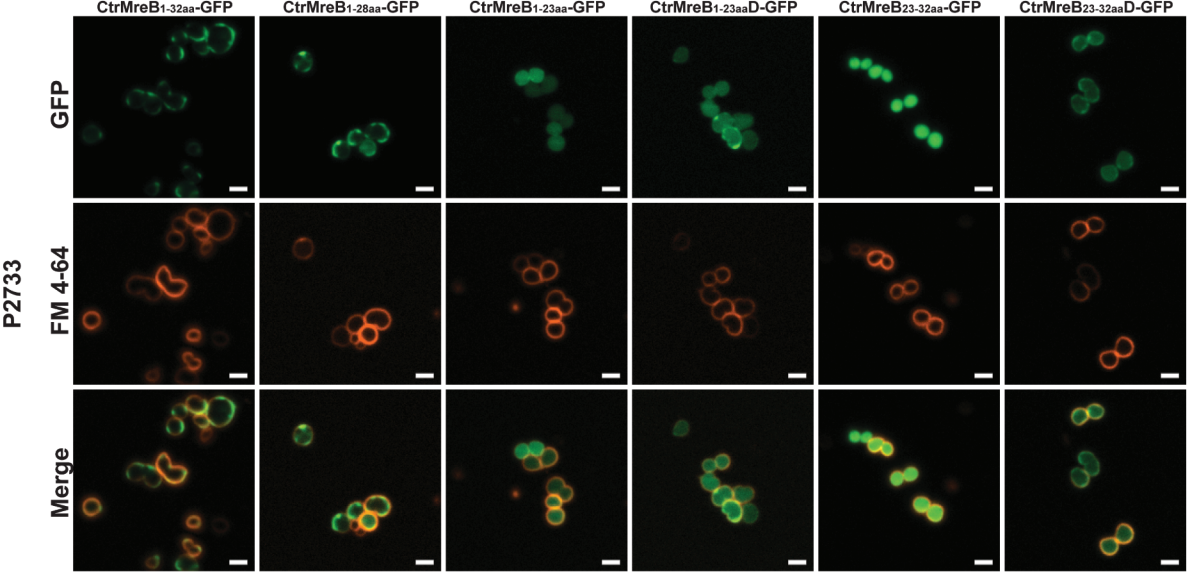
Supplemental Figure 1



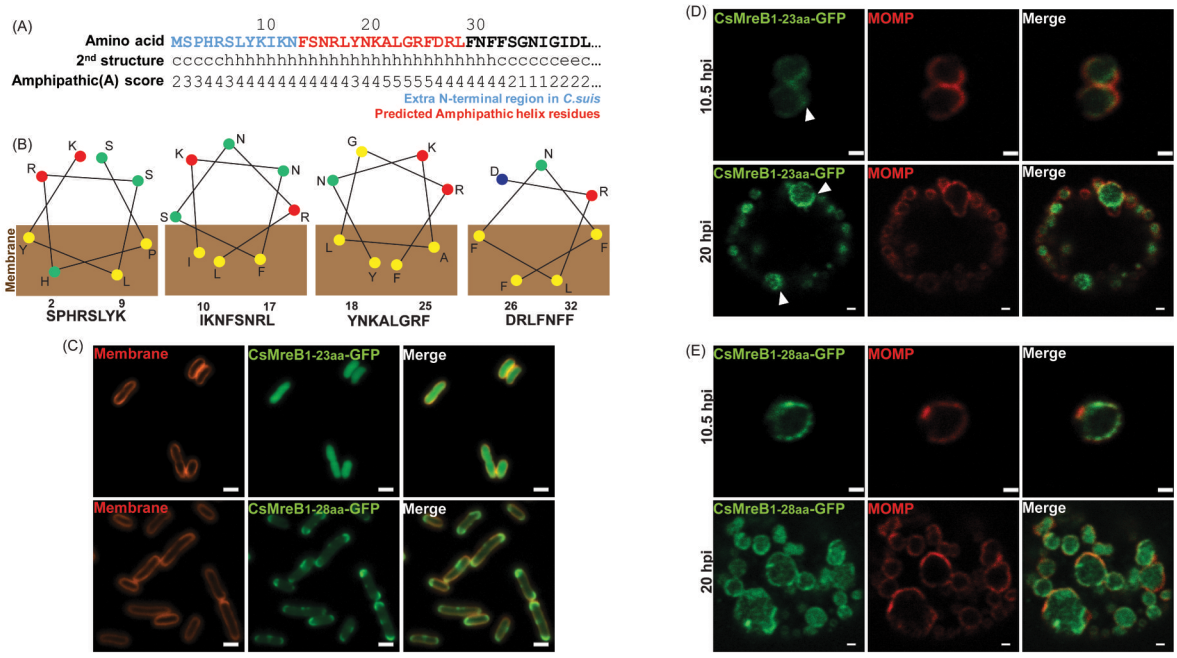


Supplemental Figure 2

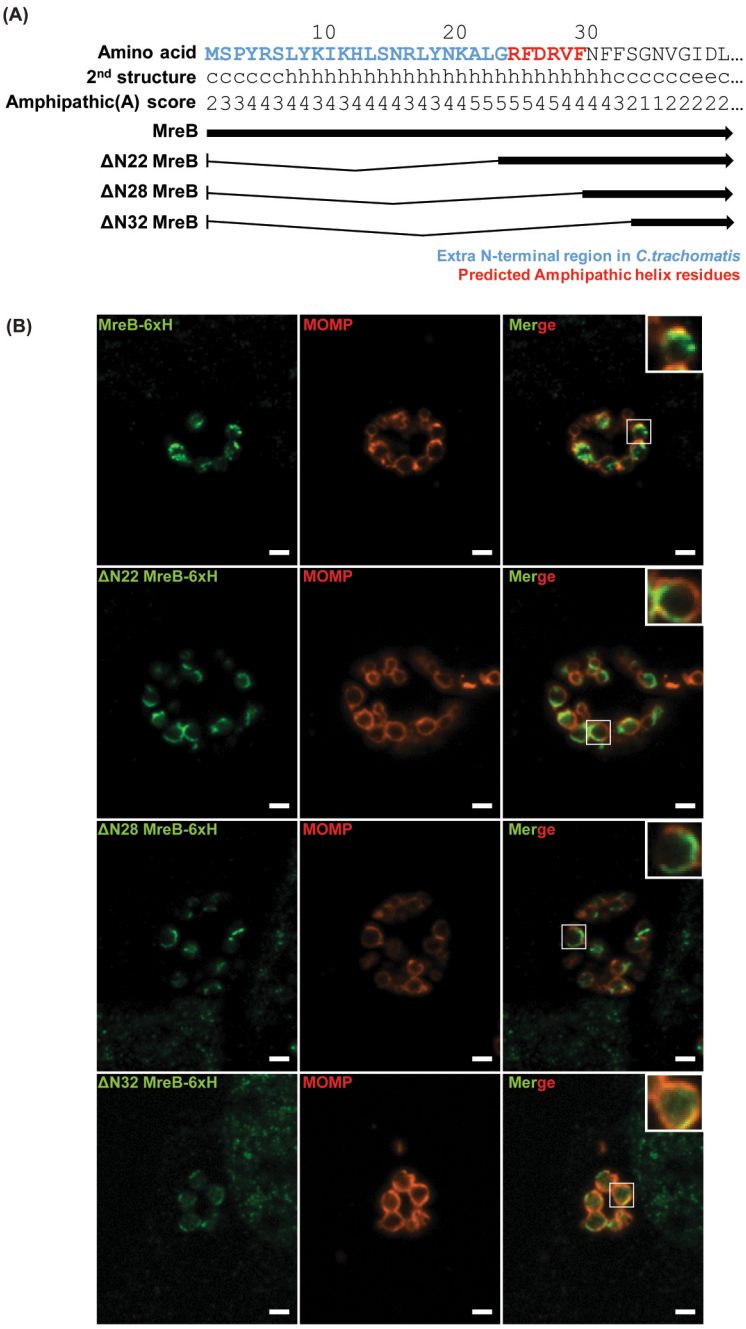

(A)
Uninduced
Induce
2h
6h
Vector
(B)
Uninduced
Induce
2h
6h
Ec_MreB
(C)
Uninduced
Induce
2h
6h
Ctr_MreB
(D)
Uninduced
Induce
2h
6h
ΔN22 Ctr_MreB
(E)
SM
Uninduced
2h Induced
6h Induced
Uninduced
2h Induced
6h Induced
◄ Ctr MreB
Ctr MreB
Ctr ΔN22MreB
(F)
T25-mreB
T18-mreB
T18-Ec_mreB
T25-Ec_mreB
(+)
(-)



Supplemental Figure 4



Supplemental Figure 5



Supplemental Figure 6