

## Supplementary materials

Controlled proteolysis of an essential virulence determinant dictates infectivity of Lyme disease pathogens

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Contains Fig. S1, Fig. S2, Table S1 and Table S2 and Legends to Supplementary Figures

Figure S1

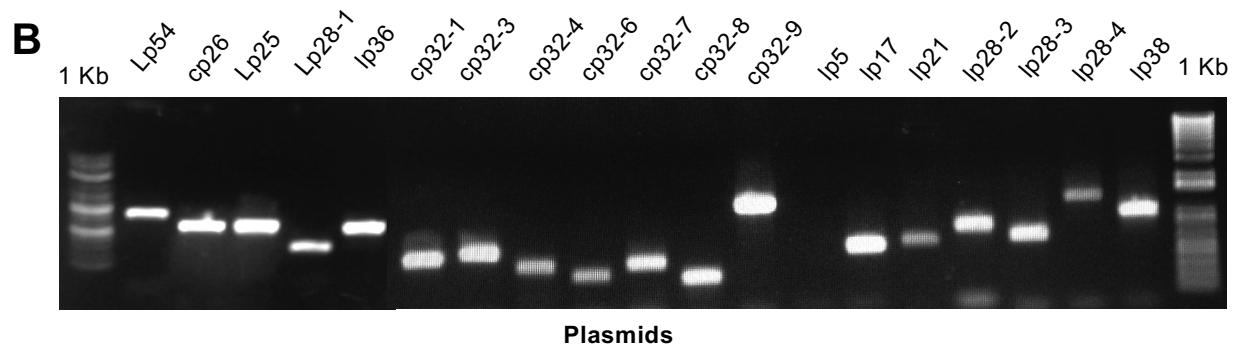
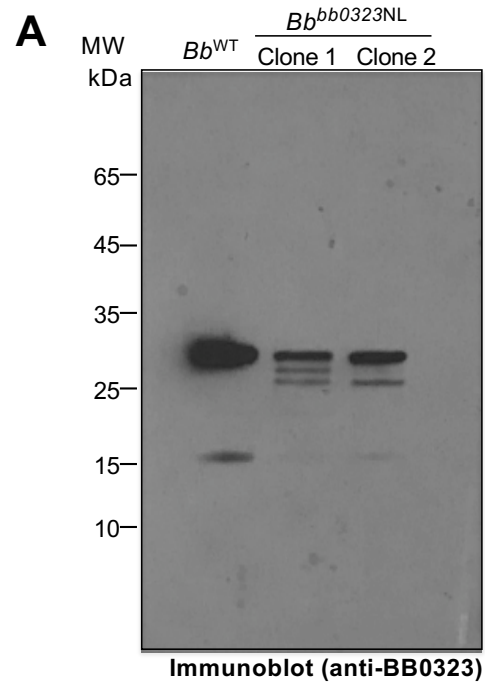
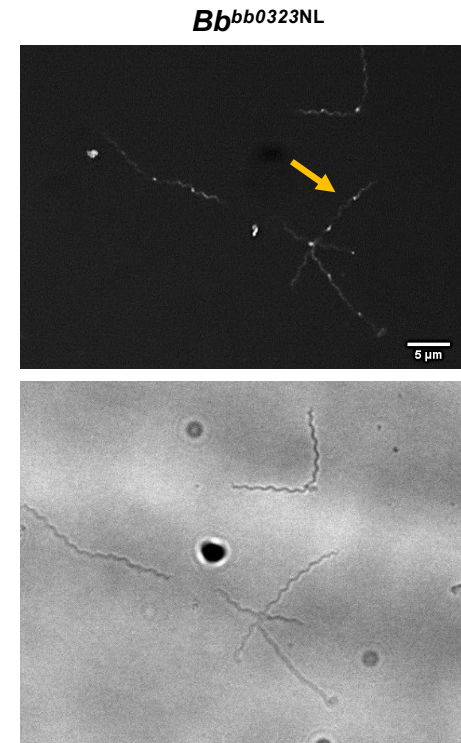
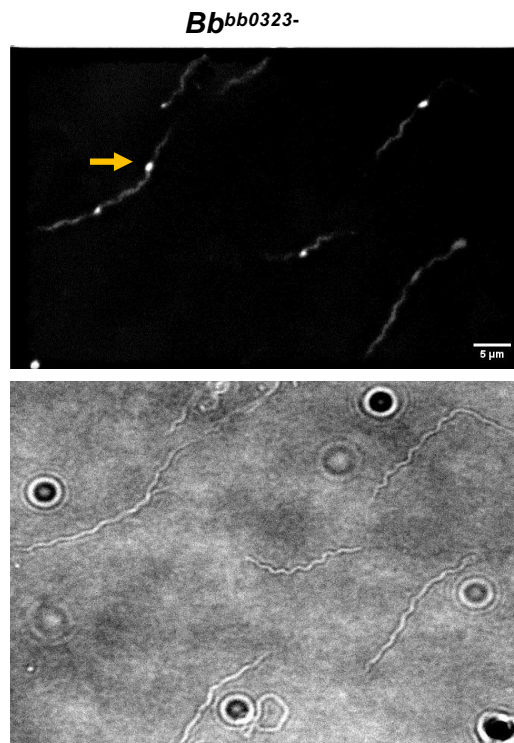
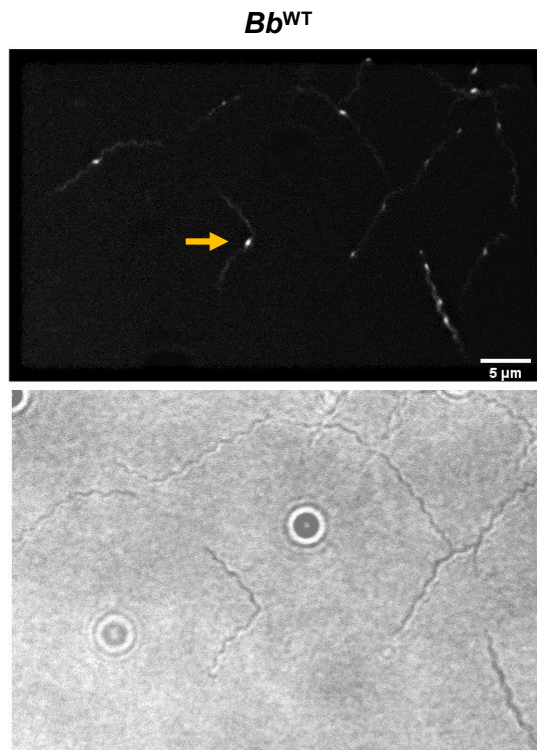


Figure S2



## Legends to Supplementary Figures

### **Figure S1. BB0323 protein and endogenous plasmid analysis in *Bb*<sup>bb0323NL</sup>**

**isolates. A:** Immunoblot showing aberrant expression of BB0323 in the two independent cleavage site mutants (*Bb*<sup>bb0323NL</sup> and *Bb*<sup>bb0323NLA</sup>). **B:** The plasmid analysis. The *Bb*<sup>bb0323NL</sup> isolate retains all plasmids, except for a non-essential plasmid lp5. DNA was isolated from *B. burgdorferi* isolates and used in polymerase chain reaction for the detection of endogenous plasmids using specific primer sets

**Figure S2. *B. burgdorferi* peptidoglycan labeling.** Fluorescence and phase-contrast micrographs wild type and mutant *B. burgdorferi* labeled with HADA.

**Table S1:** Culture analysis of infected murine tissues

<b>Strain</b>	<b>Number of Positive tissue culture /Number of mice examined</b>			
	<b>Skin</b>	<b>Spleen</b>	<b>Heart</b>	<b>Total</b>
<b><i>Bb</i><sup>WT</sup></b>	<b>3/3</b>	<b>3/3</b>	<b>3/3</b>	<b>9/9</b>
<b><i>Bb</i><sup>bb0323-</sup></b>	<b>0/3</b>	<b>0/3</b>	<b>0/3</b>	<b>0/9</b>
<b><i>Bb</i><sup>bb0323NL</sup></b>	<b>0/3</b>	<b>0/3</b>	<b>0/3</b>	<b>0/9</b>

**Supplementary Table S2:** Oligonucleotide primers used in this study

Sequence (5' → 3')	Purpose
CAGTCACTTAGCCGCTTTAAATACTAATAAAGACACTTATC	Forward primers for N236A/L237A site-directed mutagenesis
TTTCTTTCTTTAATGAATGCTCTAC	Reverse primers for N236A/L237A site-directed mutagenesis
TTGCTGATCAAGCTCAATATAACCA	Forward primer <i>B. burgdorferi flaB</i> qRT-PCR
TTGAGACCCTGAAAGTGATGC	Reverse primer <i>B. burgdorferi flaB</i> qRT-PCR
AGAGGGAAATCGTGCGTGAC	Forward primer mouse $\beta$ -actin qRT-PCR
CAATAGTGATGACCTGGCCGT	Reverse primer mouse $\beta$ -actin qRT-PCR
GGTATCGTGCTCGACTC	Forward primer tick $\beta$ -actin qRT-PCR
ATCAGGTAGTCGGTCAGG	Reverse primer tick $\beta$ -actin qRT-PCR