Supplemental Table 1. Bacterial Strains and plasmids used in this study

	Genotype	Comments	Source
F. tularensis			
Schu S4	Wild-type	*F. tularensis tularensis*	CDC
BJM1068	Δ*fipA*		(1)
BJM1069	Δ*fipA*B		(1)
BJM1076	*fipA*$^{+}$*fipB* CMYC	*In cis* complement of BJM1069*	(1)
BJM1077	*fipA*$^{+}$*fipB* AMYC	*In cis* complement of BJM1069*	(1)
BJM1078	*fipA*$^{+}$*fipB* CMYA	*In cis* complement of BJM1069*	(1)
BJM1099	*fipB*::26AS	*fipB* with Nhe1 site that adds Ala-Ser at amino amino 26*	This study
BJM1100	*fipB*-C22A	*fipB* with substitution in the lipobox motif*	This study
BJM1103	*fipA*$^{+}$*fipB* AMYA	*In cis* complement of BJM1069*	This study
BJM1111	*fipB*::26AS,Daa-27-117	*fipB* with Mip domain deleted*	This study
BJM1116	Δ*fipA* pFLNTP6-*fipA*$^{+}$	Episomal complement of Δ*fipA*	This study
BJM1117	pFNLTP6-*fipA*$^{+}$	Episomal complement of wild-type	This study
BJM1072	pFNLTP6	Wild-type vector control	This study
F. novicida			
U112	Wild-type	*F. novicida*	BEI Resources
NR-6988	*F. novicida* TN::*fipA*	Polar mutant affecting *fipB*	(2).
E. coli strains			
JCB571	*dsbA*		(3)
BMYZ266	*dsbA* pACYC184	vector control	This study
BMYZ279	*dsbA* p*fipA*$^{+}$	Episomal complement of *dsbA* with *fipA*	This study
BMYZ280	*dsbA fipB*$^{+}$	Episomal complement of *dsbA* with	This study
BMYZ280	*dsbA fipA*B^{+}	Episomal complement of *dsbA* with *fipA*B	This study
RGP665	*dsbC*, pPDI	*dsbC* harbors PDI detector plasmid	(4)
BMYZ246	*dsbC*, pPDI, pACYC184	*dsbC* harbors PDI detector plasmid and episomal complement vector control	This study

BMYZ247	*dsbC*, pPDI, p*dsbC*$^+$	*dsbC* harbors PDI detector plasmid and Episomal complement with *E. coli* WT *dsbC*	This study
BMYZ275	*dsbC*, pPDI, p*fipB*$^+$	*dsbC* harbors PDI detector plasmid and episomal complement with *fipB*	This study
BMYZ276	*dsbC*, pPDI, p*fipA*$^+$	*dsbC* harbors PDI detector plasmid and Episomal complement with *fipA*	This study
BMYZ277	*dsbC*, pPDI, p*fipAB*$^+$	*dsbC* harbors PDI detector plasmid and Episomal complement with *fipAB*	This study
Plasmids			
pMP815		*in cis* complement vector	(5)
pFNLTP6-*groE-gfp*		Plasmid used for episomal complementation in *F. tularensis*	(6)
pAQ207	*fipA*$^+$*fipB* AMYA	*fipA*$^+$*fipB* AMYA in pMP815 for *in cis* complement	This study
pAQ208	*fipB* 26AS,Daa-27-117	*fipB* 26AS,Daa-27-117 in pMP815 for *in cis* complement"	This study
pAQ226	*fipB* Daa236-365	*fipB* Daa236-365 in pMP815 for *in cis* complement	This study
pAQ237	*fipB* C22A	*fipB* C22A in pMP815 for *in cis* complement	This study
pACYC184	Chloramphenicol, tetracycline resistant	Low copy plasmid	(7)
pPDI detector	pBR322 *bla* S81C, T108C	pPDI detector	(4)
pBMMR199	*fipAB* in pACYC184		This study
pBMMR200	*fipB* in pACYC184		This study
pBMMR251	*fipA* in pACYC184		This study

* All *in cis* complementation were integrated at the *blaB* locus with wild-type *fipA* and the native promoter

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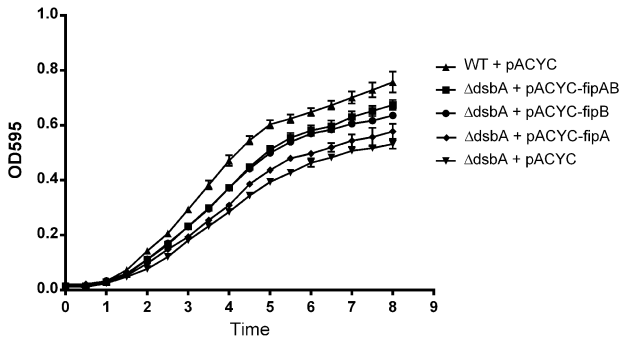
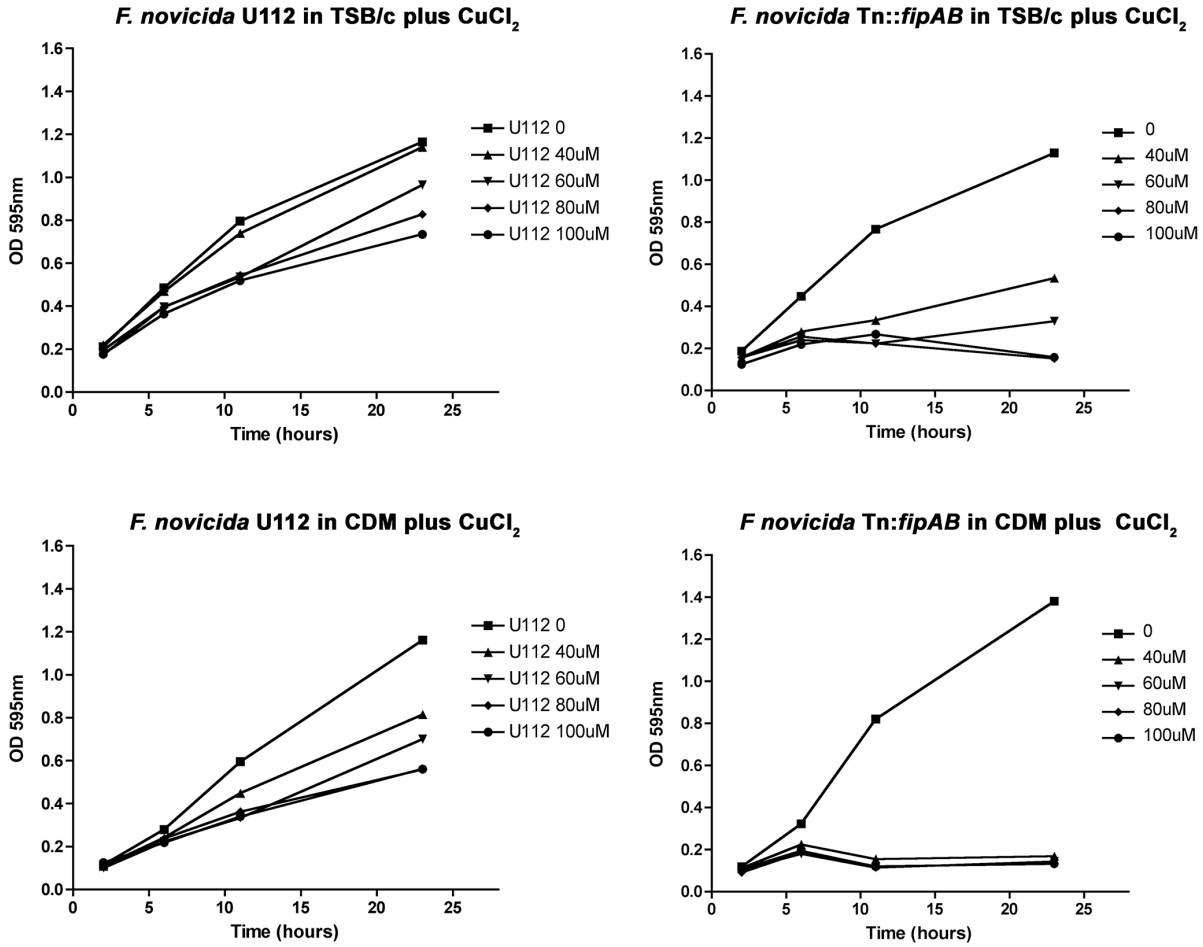
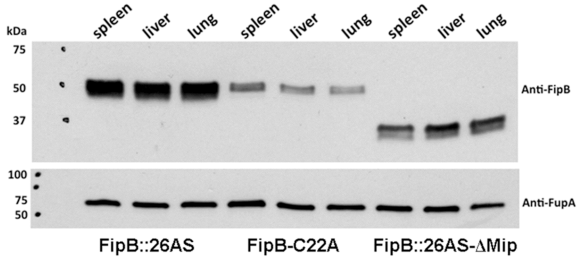


SUPPLEMENTAL FIG 1 Growth Curves of E. coli strains expressing pACYC187 plasmids. Overnight cultures were diluted 1:100 in LB plus 35 μg/ml of chloramphenicol and grown at 37° with aeration.



SUPPLEMENTAL FIG 2 *F. novicida fipAB* mutant is more sensitive to copper than wild-type. Bacteria were grown at 37°C with shaking in the indicated media supplemented with increasing amounts of $CuCl_2$.



SUPPLEMENTAL FIG 3 Mice that succumbed to infection with strains expressing mutated *fipB* were not infected with cultures that were contaminated with wild-type bacteria. Western blot of FipB from bacteria recovered from the organs of mice that succumbed to infection with the indicated strains. Mice were intranasally challenged with indicated strains, and then euthanized at the first signs of irreversible mortality. Anti-FupA antibody was used as a loading control.