

SUPPLEMENTARY

Fig. S1.

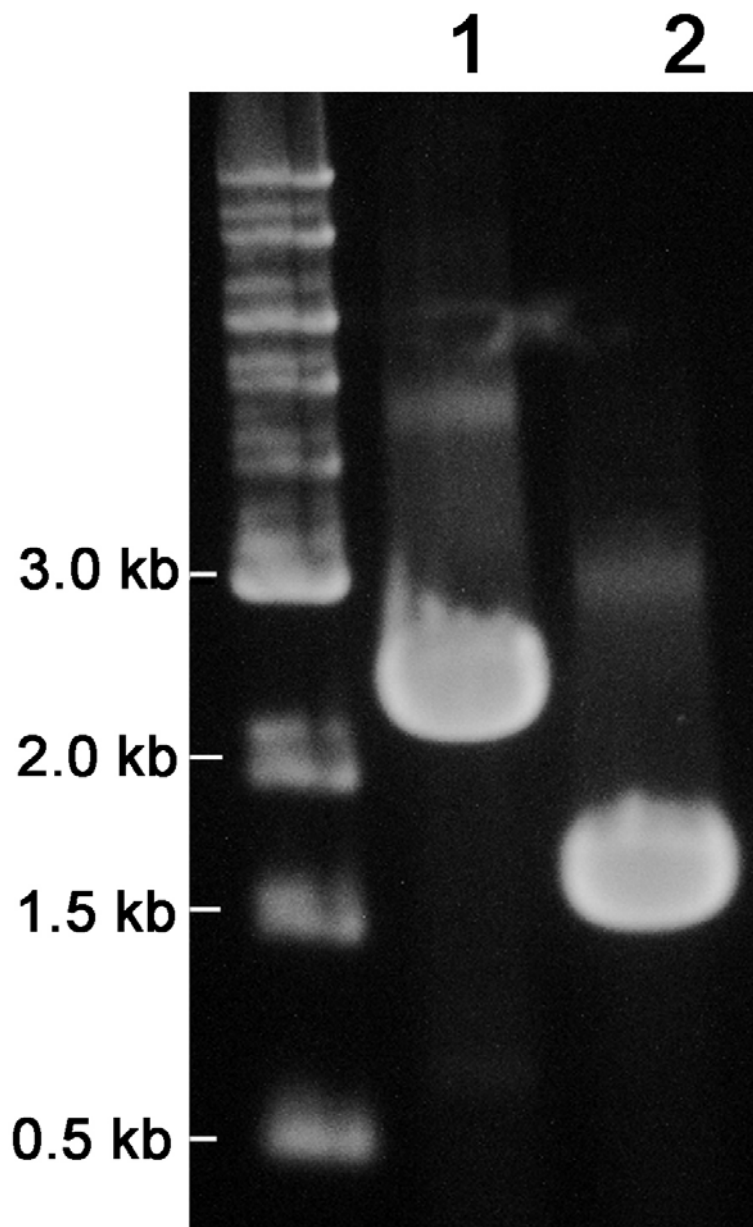


Fig. S1. PCR of SCHU S4 (lane 1) and  $\Delta$ FTT0086 (lane 2) with primers FTT0086C1F-cacaattaatgctaattttgtat and FTT0086C2R-ccaacaccattgatcatagtagt, which is complementary to the flanking regions of the gene FTT0086. The expected size of the fragment in SCHU S4 is 2387 bp and in  $\Delta$ FTT0086 1600 bp.

Fig. S2.

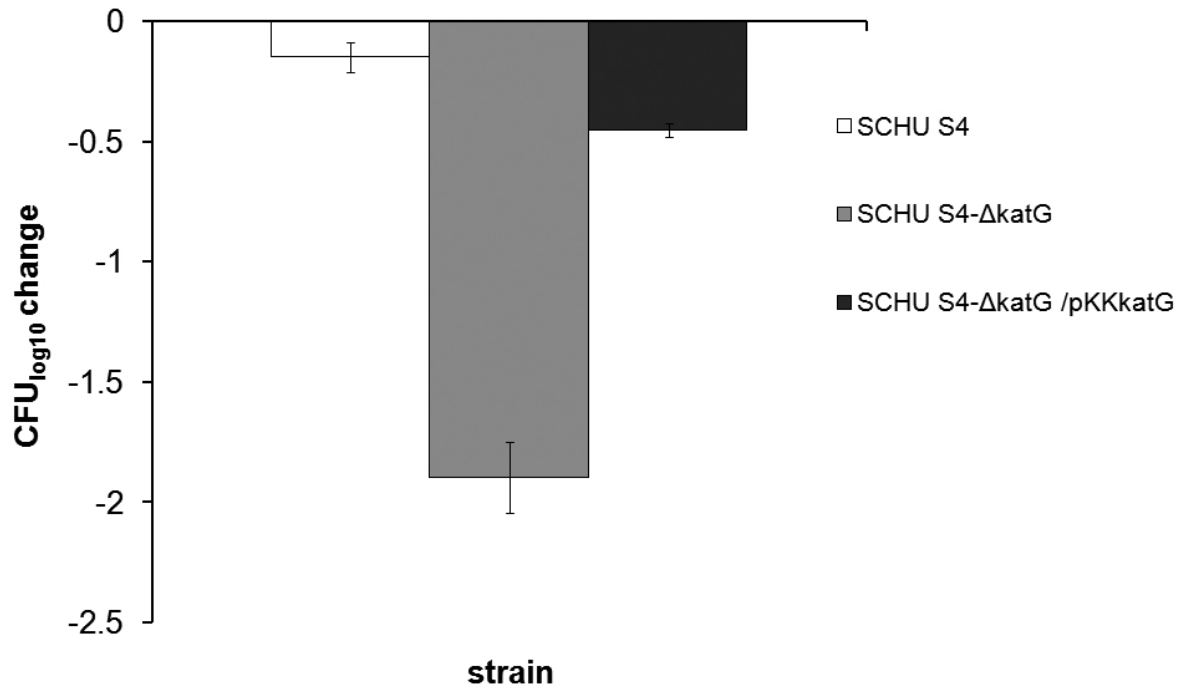


Fig. S2. Changes in bacterial numbers of indicated *F. tularensis* strains after exposure to 4 mM H<sub>2</sub>O<sub>2</sub> for 2 h. The bars represent the mean change  $\pm$ SEM in bacterial viability of three replicates. Similar results were observed in two additional experiments. The bacterial numbers at the initiation of the experiment was for each strain approximately 6.0 log<sub>10</sub>.

Fig. S3.

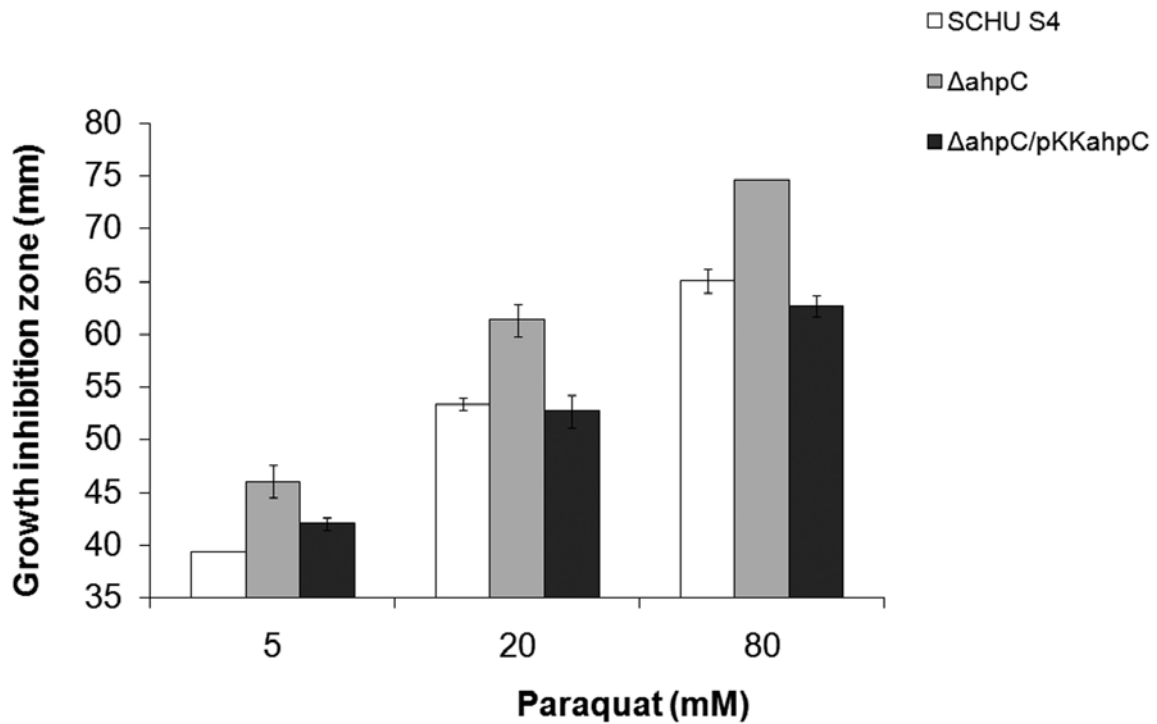


Fig. S3. Inhibition of the growth of *F. tularensis* strains after exposure to paraquat. A disc containing 10  $\mu$ l of the indicated concentration of paraquat was placed on an agar plate. The bars represent the diameter of the growth inhibition zone (mean  $\pm$  SEM) of three replicates (\*\*:  $P \leq 0.01$ ; \*\*\*:  $P \leq 0.001$ ).

Fig. S4.

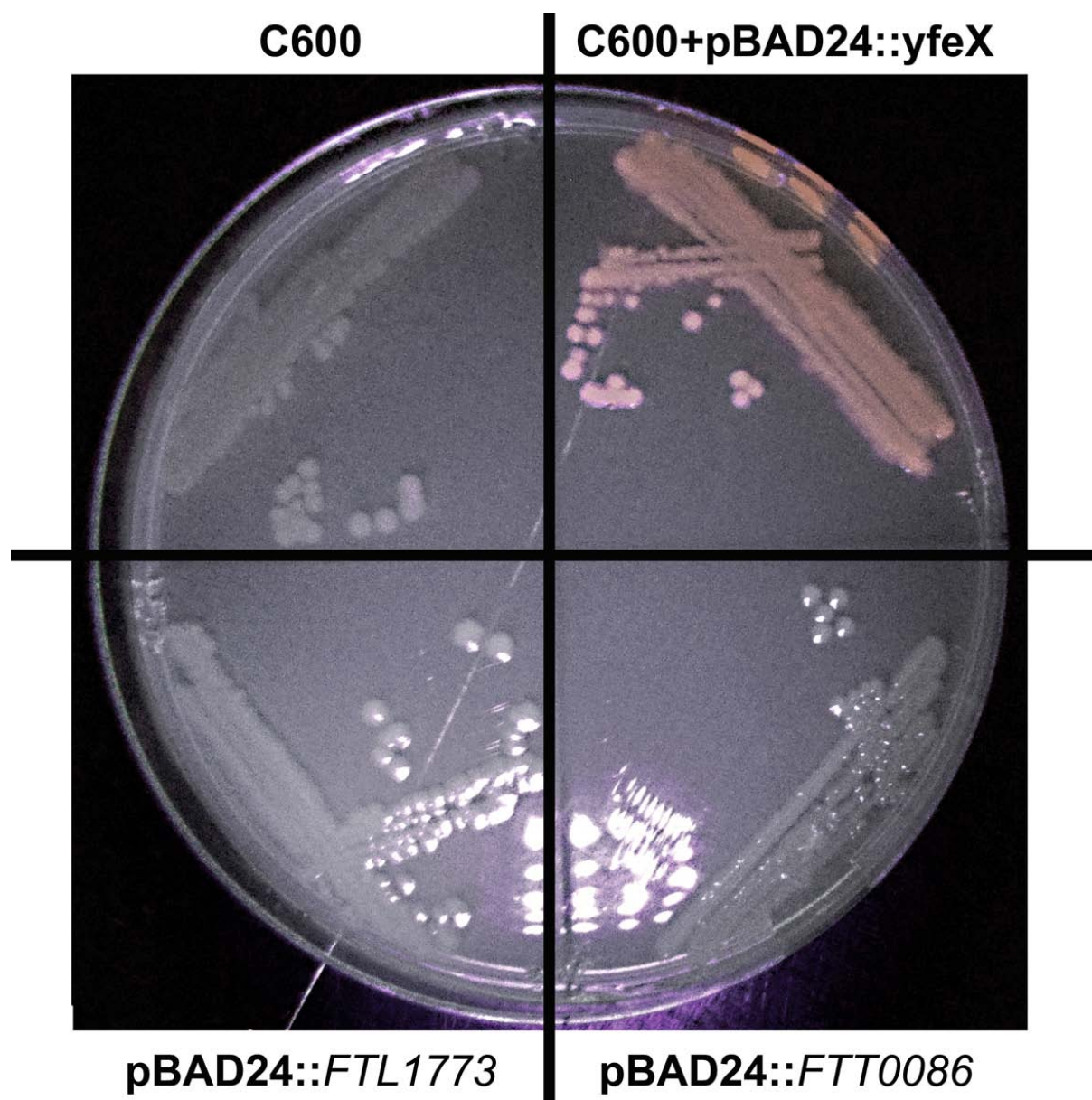


Fig. S4. Assay of deferrochelataase activity of FTT0086 and FTL1773. Strains were streaked on ML plate supplemented with 0.2 % arabinose. After overnight growth at 37C, the plate was observed under UV light (405 nm).

Fig. S5.

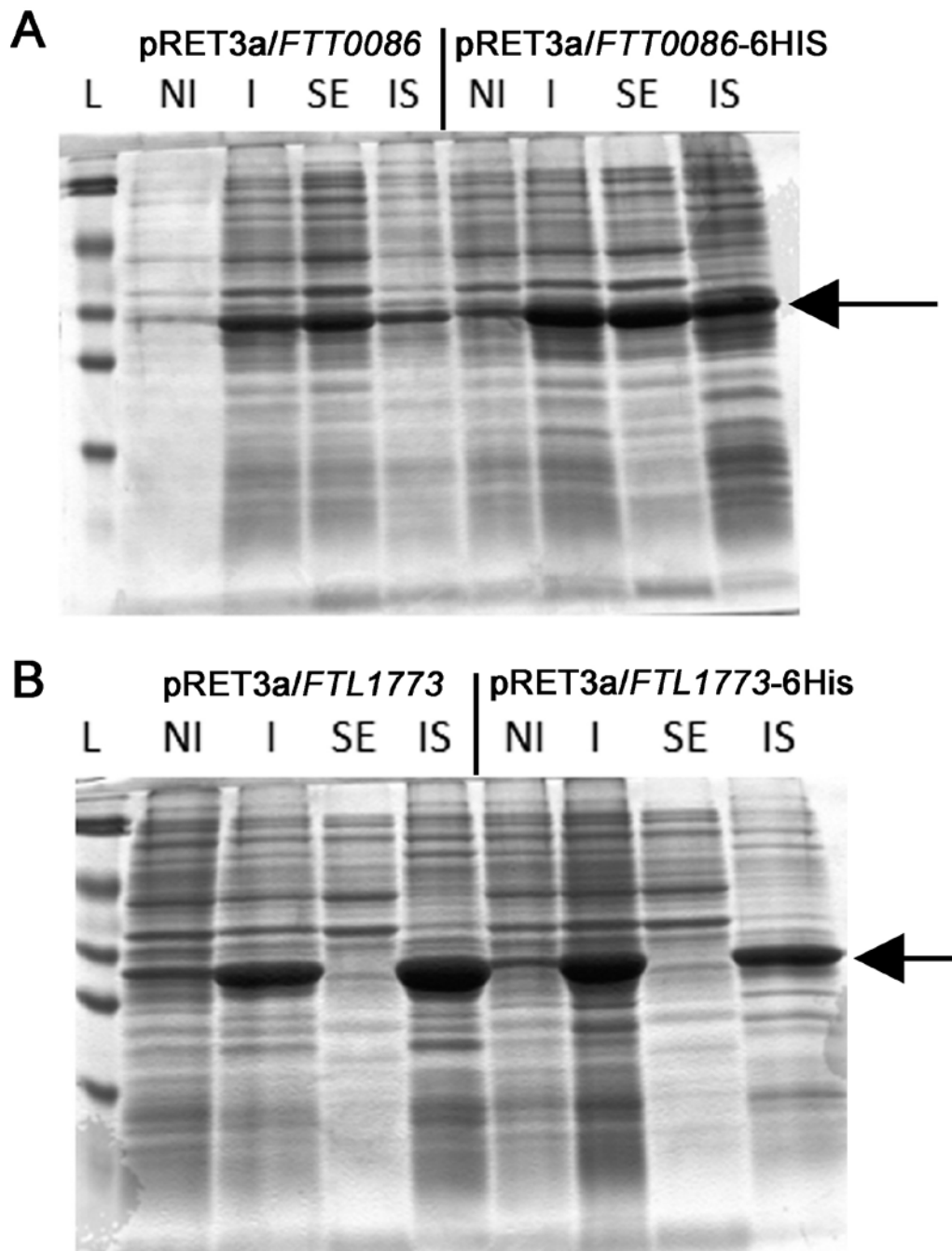


Fig. S5. Visualization of the expression of A) *FTT0086* or B) *FTL1773* in protein extracts of *E. coli* BL21 expressing the pRET3a vector by SDS-PAGE. The protein of interest is indicated by an arrow. L = ladder, NI = non-induced, I = IPTG-induced whole extract, SE = soluble extract (IPTG-induced) and IS = insoluble extract (IPTG-induced).

Supplementary Table.

Table S1. Susceptibility of SCHU S4 and indicated deletion mutants to paraquat.

Strains	Paraquat (mM)	
	250	500
SCHU S4	70 ± 0.5 <sup>a</sup>	75 ± 1
<i>ΔahpC</i>	80 ± 8.7	85 ± 0.5
<i>Δgpx</i>	70 ± 0	78 ± 5.8
<i>ΔkatG</i>	70 ± 0	75 ± 0.25
<i>ΔFTT0086</i>	70 ± 0	71 ± 1.8
<i>ΔFTT0086/ΔkatG</i>	71.3 ± 0.58	NT <sup>b</sup>

<sup>a</sup> growth inhibition zone in mm is indicated (mean ± SD) of three replicates.

<sup>b</sup> Not tested