Leveraging Copper Import by Yersiniabactin Siderophore System for Targeted PET Imaging of Bacteria

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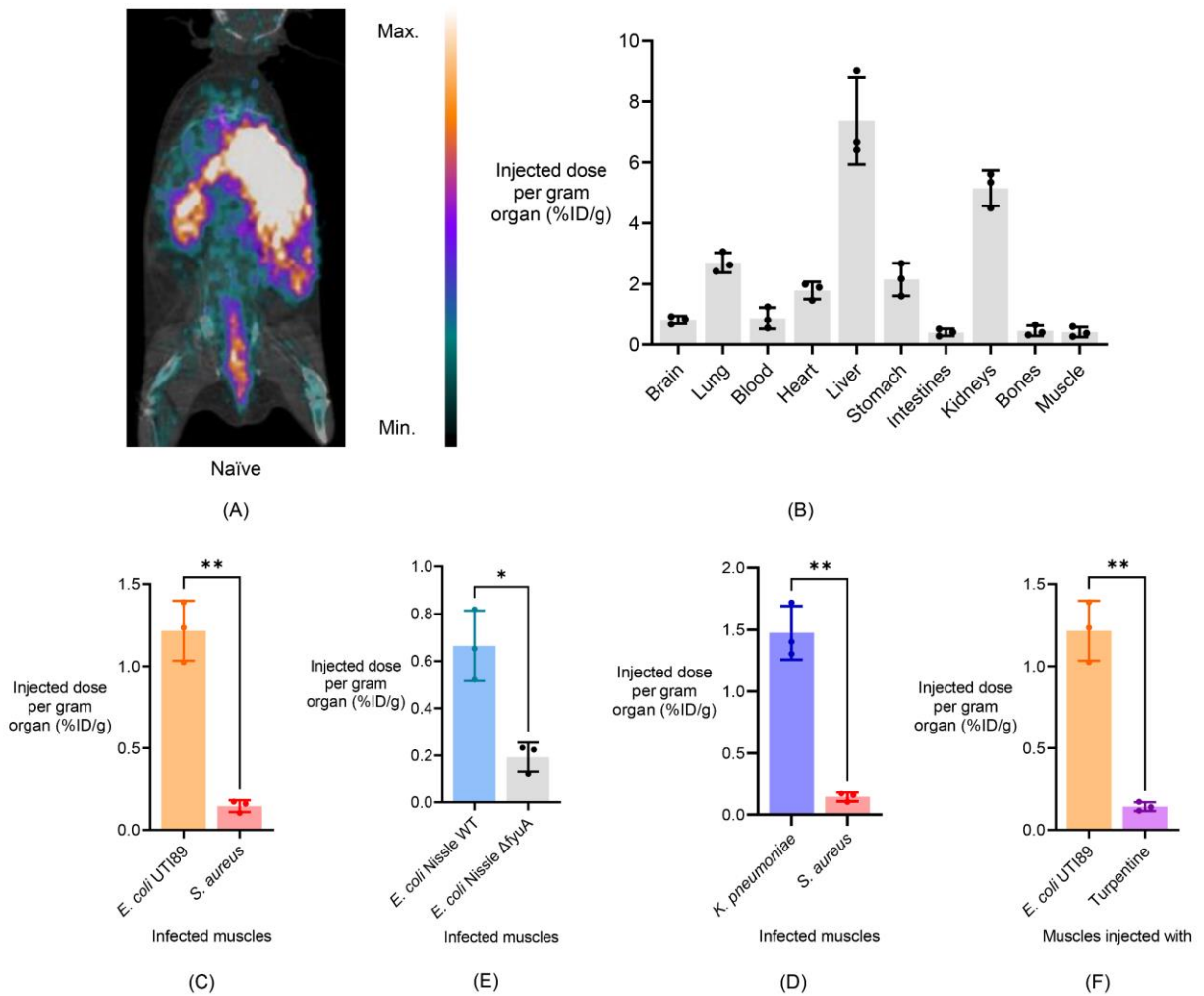
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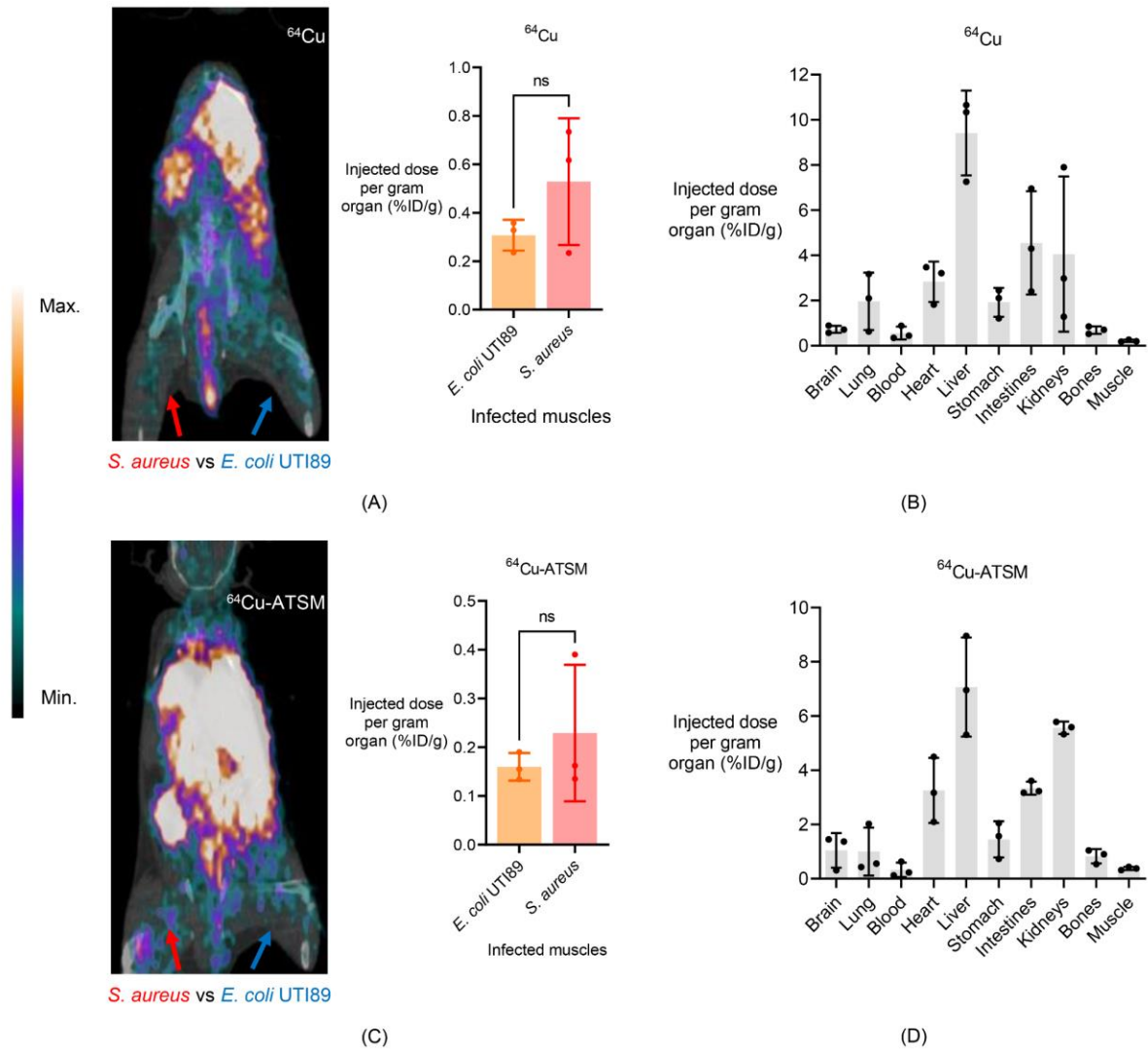
Supplemental Figure 1
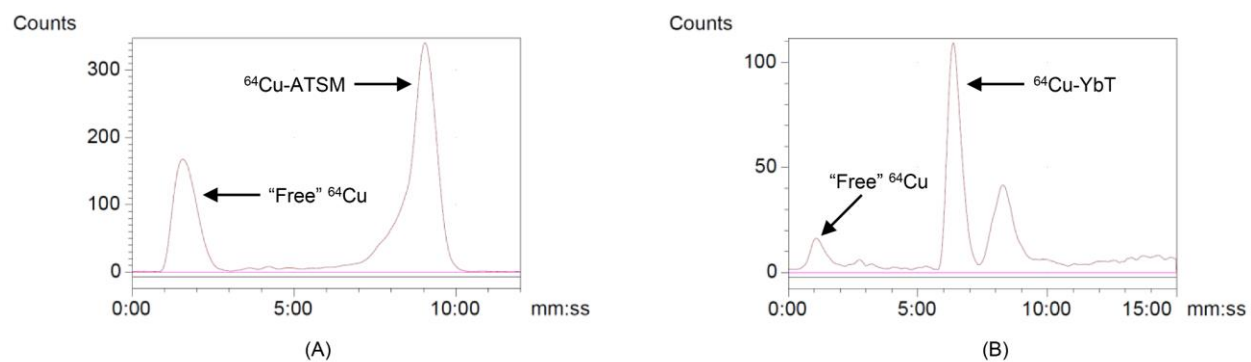
Supplemental Figure 1. HPLC analyses. Radio-chromatograms of (**A**) freshly prepared ^{64}Cu-ATSM and (**B**) ^{64}Cu-YbT in mouse serum 4 hrs after incubation.
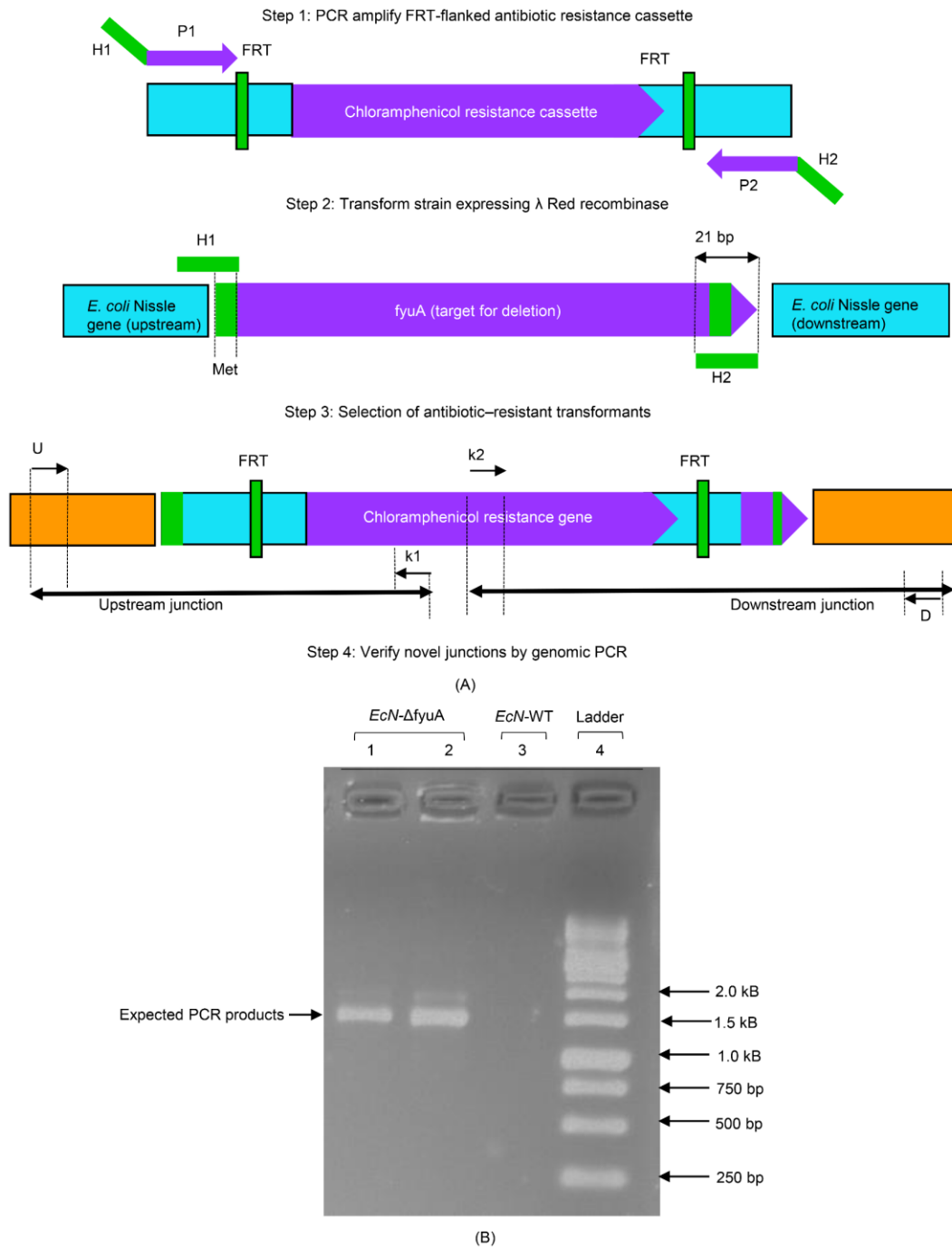
Supplemental Figure 2

Supplemental Figure 2. *In vivo* profile of ^{64}Cu-YbT. (**A**) PET/CT image and (**B**) ex vivo

biodistribution in major organs of naïve mice. ^{64}Cu-YbT accumulation (t = 24 hrs) in mice

muscles injected with: (**C**) *E. coli* UTI89 and *S. aureus* (**D**) *E. coli* Nissle wild-type (WT) and *E.*

coli Nissle FyuA knock-out mutant (Δ*fyuA*) (**E**) *K. pneumoniae* and *S. aureus* and (**F**) *E. coli*

UTI89 and turpentine. Note: arrows indicate sites of bacterial injection. Data presented as mean

± s.d. (n = 3) analyzed by Welch's t-test; *P < 0.05, **P < 0.01.

Supplemental Figure 3

(A)

(B)

(C)

(D)

Supplemental Figure 3. Control ^{64}Cu-based probes lack bacterial specificity. PET/CT images with muscle uptakes and biodistribution in major organs of (**A** and **B**) Unchelated ^{64}Cu and (**C** and **D**) ^{64}Cu-ATSM 24 hrs post-administration of probes. Note: arrows indicate sites of bacterial injection. Data presented as mean ± s.d. (n = 3) analyzed by Welch's t-test; ns: not significant.

Supplemental Figure 4

Supplemental Figure 4. (**A**) Schematic of knock-out mutant (KO) generation using λ Red Recombinase method. (**B**) Colony PCR products of *E. coli* Nissle FyuA KO mutant (*EcN-ΔfyuA*, lanes 1 and 2) and *E. coli* Nissle wild-type (*EcN*-WT, lane 3) were run on 1% agarose gel alongside a 1 kB DNA ladder.