

## Description of Additional Supplementary Files:

**Supplementary Data 1:** Statistical comparison of  $\log_{10}$ -transformed conjugation efficiency of different plasmids transferred from EcN to SGH10 and from SGH10 to EcN in the murine gut using one-way ANOVA with Tukey's correction.

**Supplementary Data 2:** Statistical comparison of the  $\log_{10}$ -transformed conjugation efficiency from EcN into SGH10 and SGH10 $\Delta$ wcaJ in the murine gut with unpaired t-test with Welch's correction (two-sided).

**Supplementary Data 3:** Statistical comparison of  $\log_{10}$ -transformed conjugation efficiency in the murine gut for pKPC2 $\Delta$ *traF* transferred from EcN pACYC\_*traF* or EcN::*traF* to SGH10 or SGH10::*traF* and from pKPC2 in EcN to SGH10 as comparison using one-way ANOVA with Tukey's correction