Dimethyl sulfoxide protects *Escherichia coli* from rapid antimicrobial-mediated killing

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SUPPLEMENTAL MATERIAL

Two figures:

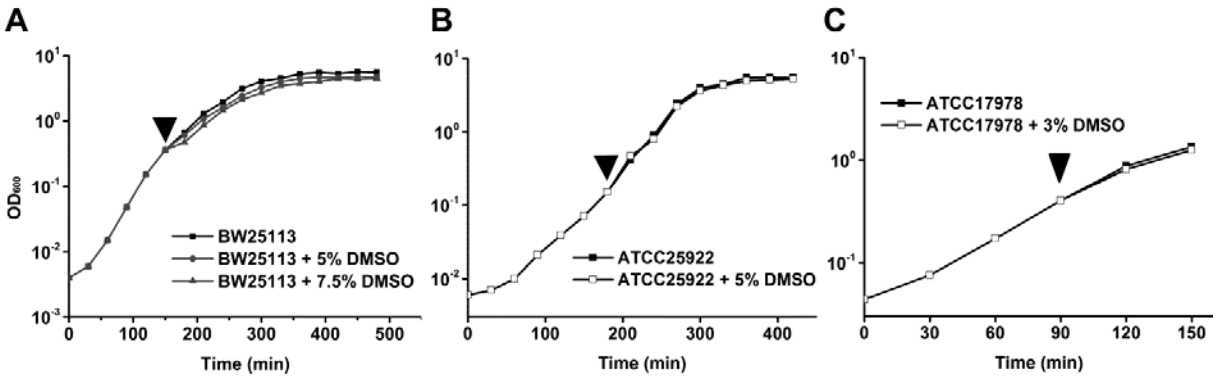

Figure S1. DMSO has little effect on bacterial growth. Exponentially growing cultures of *E. coli* (A and B) or *A. baumannii* (C) were grown in LB medium. At the indicated times (downward arrowheads), DMSO at 1/2 MIC (also at 1/3 MIC for panel A) was added to the culture. Cell growth was monitored as OD_{600} for up to 8 h. DMSO at the concentrations used in the present work showed little effect on bacterial growth with all 3 strains.

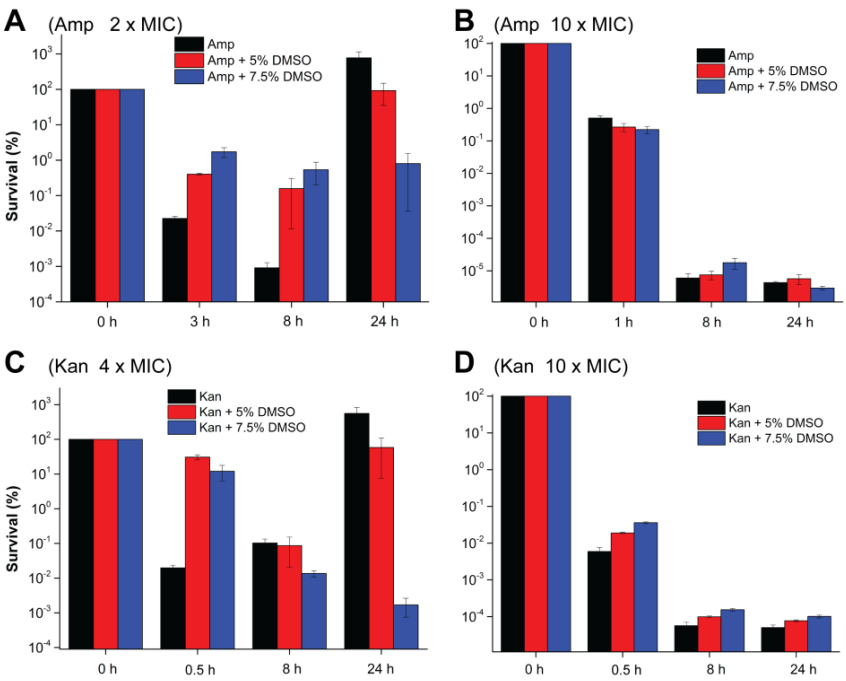

Figure S2. Increased incubation time and drug concentration diminish DMSO-mediated protection from killing by kanamycin and ampicillin. Exponentially growing cultures of *E. coli* strain BW25113 were treated with 16 μg/ml ampicillin (2 x MIC, panel A), 80 μg/ml ampicillin (10 x MIC, panel B), 4 x MIC kanamycin (24 μg/ml in the absence and 12 μg/ml in presence of DMSO, panel C), or 10 x MIC kanamycin (60 μg/mL in the absence and 30 μg/ml in presence of DMSO, panel D). In each panel DMSO was absent or present at 5% or 7.5% for the indicated times. The protective effect of DMSO on both kanamycin- and ampicillin-mediated killing dropped or disappeared as drug exposure time or concentration increased (compare panels A and B, or C and D). The regrowth in the 24-h samples of panels A and C may derive from drug-resistant mutants selected at the low drug concentrations and long incubation times used for these experiments. With ampicillin examined at various drug concentrations, no protection was observed at concentrations > 4 x MIC (not shown). Shown are the average values from experiments conducted at least three times. Error bars indicate standard error of the mean.