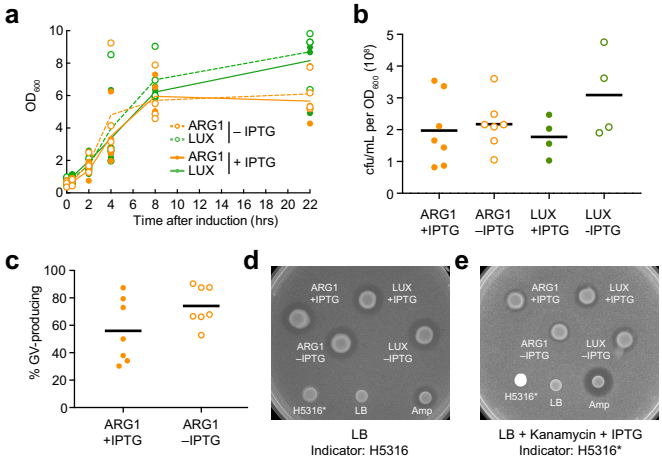

Extended Data Figure 8 | Effect of *arg1* and *lux* expression on ECN cell growth, viability and microcin release. a, Optical density at 600 nm measured from 0 to 22 h after induction with 3 μM IPTG, or without induction, in ECN cells transformed with *arg1* or *lux*. Data are from four biological replicates per time point, lines represent the mean. For comparisons between induced *arg1* and induced *lux* values at 22 h $P = 0.12$. For comparisons between uninduced *arg1* and uninduced *lux* at 22 h $P = 0.04$. For comparisons at all other time points $P > 0.14$. **b**, Colony-forming units (cfu) per millilitre culture per OD_{600nm} after 22 h of induction with 3 μM IPTG, or uninduced growth, of ECN cells transformed with *arg1* or *lux*. $P \geq 0.22$. Data are from 7 biological replicates for *arg1* samples and four biological replicates for *lux* samples. Lines represent the mean. **c**, Fraction of opaque, gas vesicle-producing colonies produced by plating *arg1*-transformed ECN cells 22 h after induction with 3 μM IPTG, or uninduced growth. Cells were plated on dual-layer IPTG induction plates, allowed to grow overnight at 30 °C, and imaged as in (Extended Data Fig. 4c–f, $P = 0.12$. data are from seven biological replicates, lines represent the mean. **d**, Microcin release assay using a uniform layer of the indicator strain *E. coli* K12 H5316 in soft agar, after 17-h incubation with filters containing microcin sources and controls, as indicated. ECN cells transformed with *arg1* or *lux* were induced for 22 h with 3 μM IPTG, or grown without induction, before spotting. H5316* indicates H5316 cells transformed with mWasabi and cultured for 22 h as with ECN cells. All cells were washed before spotting to remove antibiotic. Experiment was performed four times with similar results. Amp, 100 mg ml^{-1} ampicillin; LB, LB medium. **e**, As in **d**, but with the indicator strain comprising H5316* cells and the agar containing 50 μg ml^{-1} kanamycin, 3 μM IPTG and 50 μM desferal, to show that microcin release also occurs during transgene expression. Note that the H5316* spot appears bright because the plate image is acquired with blue-light transillumination, resulting in mWasabi fluorescence. Experiment was performed four times with similar results. All *P* values were calculated using a two-sided heteroscedastic *t*-test.

© 2018 Macmillan Publishers Limited, part of Springer Nature. All rights reserved.