

Supporting Information

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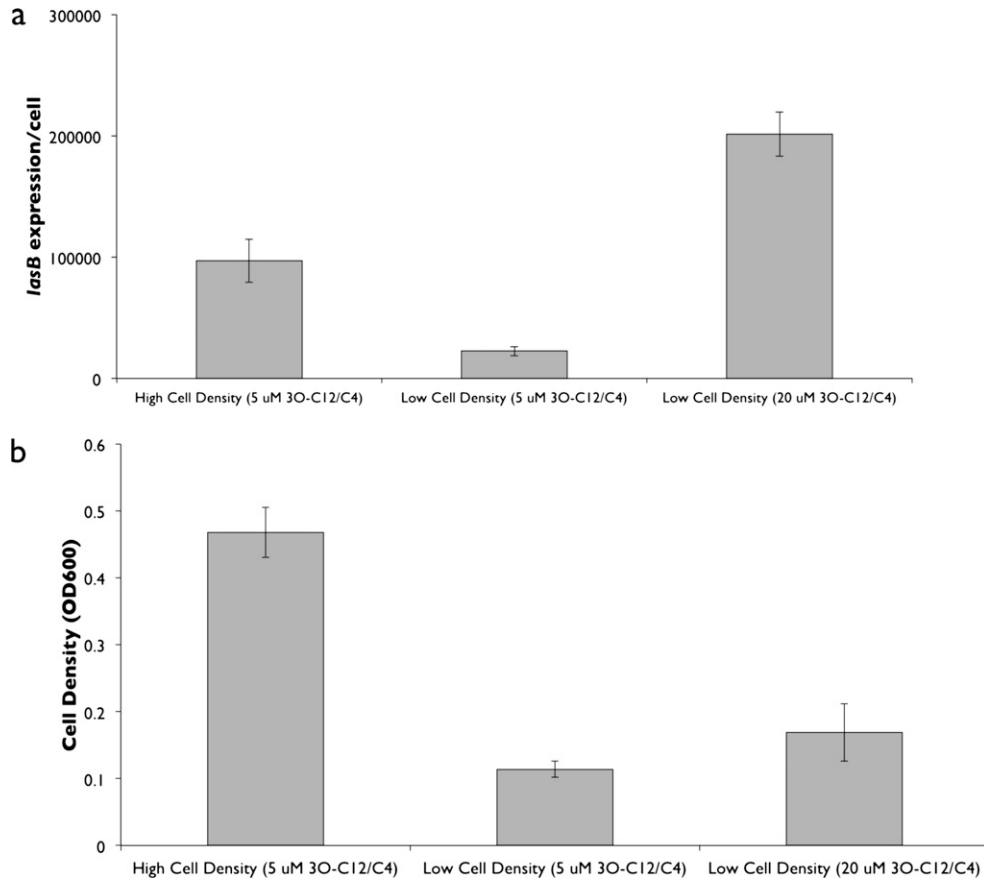


Fig. S1. Response to signal and cell density using a *lasI/rhl* double-mutant. (A) *lasB* expression per cell is highly induced by 5 μ M 3O-C12-HSL and C4-HSL at high density (0.125% CAA) but less so at low density (0.03125% CAA) cultures ($P < 0.0001$). A concentration of 20 μ M 3O-C12-HSL and C4-HSL induces *lasB* to significantly higher levels at low cell density ($P < 0.0001$). (B) Increased fitness (growth) of the population occurs under conditions of high cell density but not low cell density, even at high signal concentration ($P < 0.02$). All results are shown as means (\pm SD), six replicates per treatment.

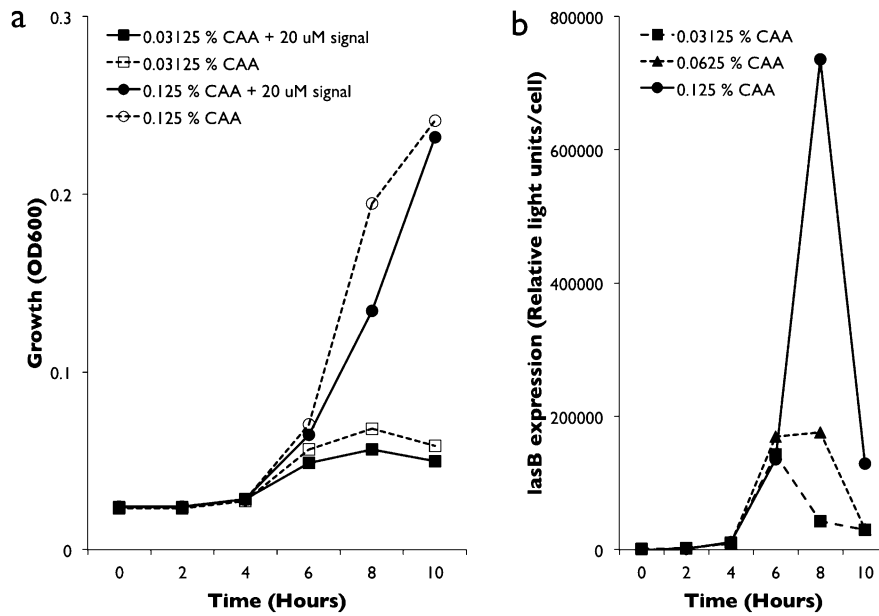


Fig. S2. Manipulating cell density with casamino acids (CAA). (A) The PA01 *lasI::Gm^R* (signal-negative) mutant grew to higher cell densities when provided with more CAA, both in the presence and absence of the signal *N*-(3-oxododecanoyl)-L-homoserine lactone (3O-C12-HSL; 20 μ M). (B) The *lasB* expression per cell (in relative light units) of the PA01 *lasI::Gm^R* (signal-negative) mutant was increased by the addition of the signal 3O-C12-HSL (20 μ M). All results are shown as means (\pm SD), eight replicates per treatment.