Table S1. Primers used in this study.

Primer	5'-3' sequence
OAS28	CCGCGGGAAGAAATTTTTAGAGGAGTGATTTAATCTAAATATTAAAATTAAATATTTATAGGAGG
OAS29	GGAACCAATTATAGGATATAGAGATGGTAGTGGT*CATCATCATCATCATCATCAT*TAAAATCTTATAGTATAAACTTCTG
OAS30	CAGAAGTTTATACTATAAGATTTTAATGATGATGATGATGATGACCACTACCATCTCTATATCCTATAATTGGTTCC
OAS31	GGATCCGCTATTACTATGTGAATAGTCTTTCCTTTATTTGAGATTAAGAAAACAAAG
OAS32	CCGCGGGAAATTTAATTCTAAGTATATAAAATACTAAAGGAGGGTTAA GAAGAATAAAATTTGAAAGG
OAS36	GGATCCCCTTTCAAATTTTATTCTTCTTAACCCTCCTTTAGTATTTTATATAC
OAS50	GGATCCTTAATGATGATGATGATGATGATTATTATTCAATTTATTTTTTATGTCTTCAACATCACTTTTTATAATTGG
OAS55	GGATCCTTACTTGTCGTCATCGTCTTTGTAGTCATTATTATTCAATTTATTTTTTATGTCTTCAACATCACTTTTTATAATTGG
OAS37F	GGGATT TATTTAGATGTAGATGTGCTTCCTGG
OAS38F	CAAGGTGATAAAGTAAGTTATGAGGCTGC
OAS39F	CAGGAGAATTTAGGGTTGTAAGAGAAAATAGTAGG
OAS40F	GATTTTTCAATTAAAGGTATGATGCTACCTAATGG
OAS41F	TTGAAAGGAATTTGGAATACATCAGTTAATAATTCAG
OAS42R	CCAGGAAGCACATCTACATCTAAATAAATCCC
OAS43R	GCAGCCTCATAACTTACTTTATCACCTTG
OAS44R	CCTACTATTTTCTCTTACAACCCTAAATTCTCCTG
OAS45R	CCATTAGGTAGCATCATACCTTTAATTGAAAAATC
OAS46R	CTGAATTATTAACTGATGTATTCCAAATTCCTTTCAA
OAS47R	GATATATTATTTATCATTCCTCCAACCCAAACAAAATG
OAS48F	GGGAAATTACTTAATTATTCTAGACAGCACG

OAS49R	GTAGAGCTCTTTCAATGACTTTTATTGTGATAC
OAS57R	GTCGACTAATTATTATTCAATTTATTTTTTATGTCTTCAACATCAC
OAS59F	GAAGACATAAAAAATAAATTGAATAATAATTAGTCGACAAAAAA TTTATAAAAAATATAAATTTTAAATTTTTATTTACAAAATTTAA
OAS60R	GTCGACTTATATGTCTTCAACATCACTTTTTATAATTGGTAGTAAT TCTG
OAS64R	GTCGACTTAATTATTATTCAATTTATTTTTTCTTTTGCTATTTTCTT TTAATAC
OAS62R	GTCGACTTAATGATGATGATGATGATGATTATTATTCAATTTATTT TTTATGTCTTCAACATCACTTTTTATAATTGG
OAS63	GTCGACTTACTTGTCATCGTCTTTGTAGTCATTATTATTCAATTTAT TTTTTATGTCTTCAACATCACTTTTTATAATTGG
OAS61R	GGATCCTTAATGATGATGATGATGATGTAATGATTTATTAGTATA TTTTTCTACTAGCTTTTTATATTCTATTTGTGATTTAAC
OAS65R	GGATCCTTAATGATGATGATGATGATGTTTTTTATCTAGACTATTT CTAAAAGTTATCAACTCCATAATATTTTTAGC
OAS66R	GGATCCTTAATGATGATGATGATGATGTATATTAAGAATCCAATT ATCTTCTTTAGTCCCATTAATAAATATTTTTATTG
OAS67F	GGAGGTTAATTGTGGATTCAGAACTG
OAS68R	TATACTTAGAATTAAATTTCTTATACATTATATAAAGAGTTC

Supplemental Material Methods

Total counts, viable counts, and LDH activity assessments. Aliquots from three, biologically independent protein expression assays, four hour post-induction with 30 mM lactose, were assayed as follows. Supernatant fractions leftover from the SDS-PAGE preparations were placed on ice for LDH assays. One ml quartz cuvettes 5 mM pyruvate, 0.2 mM NADH, 70 mM sodium phosphate pH 7.0, and 100 µL culture supernatant were prepared. Absorbance was read at 340 nm over ten minutes relative to a blank prepared similarly but with 100 uL water instead of pyruvate. For the empty vector lysed control sample, 40 uL of cell-free extract, made by shaking with 0.1 mm zircon beads, was mixed with supernatants from pKRAH1, pAS11 and pAS12 from a single experiment for three replicates. Cell lysis was inferred as LDH activity, since LDH is an intracellular enzyme and is not secreted. LDH activity was measured as a loss in NADH absorbance at 340 nm over time. For viable cell estimates, cell culture were serially diluted in aerobic Dulbecco's phosphate buffered saline and spread onto BHI agar. These agar plates were immediately transferred to anaerobic conditions and incubated overnight at 37°C. The colonies on these agar plates were enumerated and CFU/mL were estimated from the total dilutions. For total count assessments, 10 µL of 1:100 dilutions were placed in hemocytometer or Petroff-Hauser cell counting chambers. The cells were allowed to settle for a few minutes before enumeration.