SUPPLEMENTARY INFORMATION

qPCR study

Real-time quantitative PCR assays were carried out on the 7500 Real Time PCR System (Applied Biosystems). Pairs of primers were designed in Primer Quest program (http://eu.idtdna.com/PrimerQuest/) in order to multiply two common and four unique (two per each strain) genes harbored by the respective LOCK strains (Supplementary Table 1). Each reaction was carried out in reaction mixture containing: 1× concentrated commercial SYBR Green mixture SensiFast Low ROX (Bioline), forward and reverse specific primers (100 μM each), DNA template (in three 9, 3 and 1 ng per well, each in duplicate), and water to 10 μl of final volume. Reactions were performed with an initial denaturation step (95 °C for 3 min) followed by 40 cycles of denaturation (94 °C for 20 s) and primer annealing-extension (60 °C for 1 min). After cycling, melting point temperature analysis was performed in the range of 60 °C to 94 °C with temperature increments of 0.33 °C. Quality of the results was evaluated based on expected C_t differences among three DNA amounts as well as product melting curves. Three concentrations of DNA allowed calculating individual efficiencies for each primers pair and normalizing all results to one, common for all genes, DNA concentration. Amount of each target gene was calculated by ΔC_t method with geometric mean of two common genes C_ts as a reference (Vandesompele *et al.*, 2002).

Vandesompele J, de Preter K, Pattyn F, Poppe B, van Roy N, de Paepe A *et al.* Accurate normalization of real-time quantitative RT-PCR data by geometric averaging of multiple internal control genes. *Genome Biol* 2002; **3**: research0034.1–research0034.11.

Supplemental Table 1 Primers used for qPCR:

Common gene primers
==========
DNA-directed RNA polymerase alpha subunit
LbCRpaaF
GATATCGTCGCTGATCCTG
LbCRpaaR
GTCAGCTGCCACATACC
==========
Translation elongation factor Tu:
LbCtefaF
GACCTTGGATCTTGGTGAAG
LbCtefaR
TGGATTGAACCTGGCTTTG
Strain-specific gene primers
Unique for *L. rhamnosus* LOCK0900
==========
Phage anti-repressor protein 900
LbUpa0aF
GGGCTGCTCTACAAAGATG
LbUpa0aR
AGTTGATGGATGCCAGTTAC
==========
Recombinational DNA repair protein RecT 900
LbURe0aF
CCAGTAACGCCCTCAATTC
LbURe0aR
CCCTTGTATCACCATGTTCAG
Unique for *L. rhamnosus* LOCK0908
==========
DNA helicase, restriction/modification system component YeeB 908
LbUYb8aF
GGCACGAGTCTATCAACATC
LbUYb8aR
CCTTTCGGACACCTTGATTAG
==========
YeeC-like protein 908
LbUYc8aF
GCGAAGAAGTTGAGCTTAATG
LbUYc8aR
CCATACAGAGATGAGGCAAG
==========