

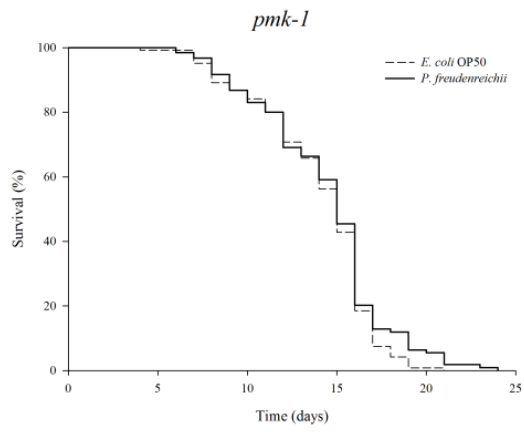
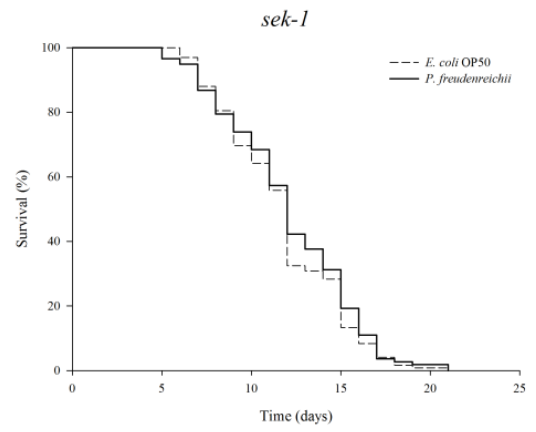
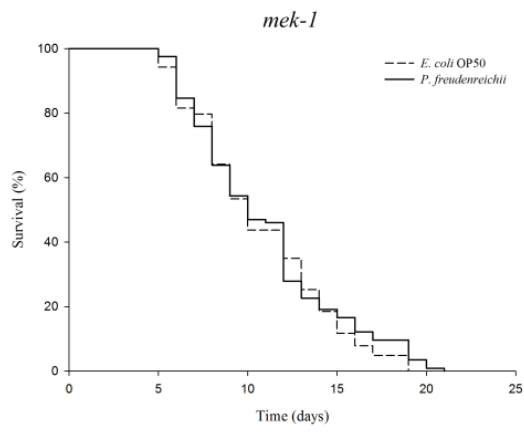
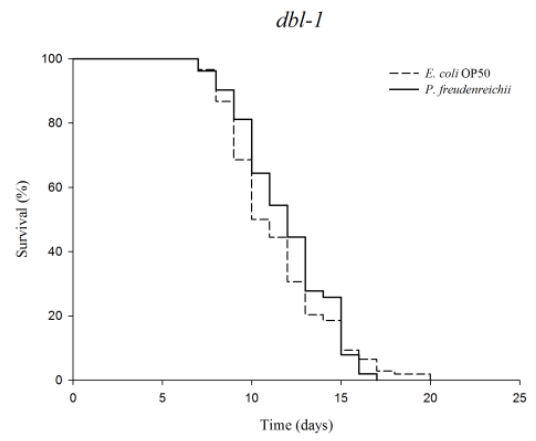
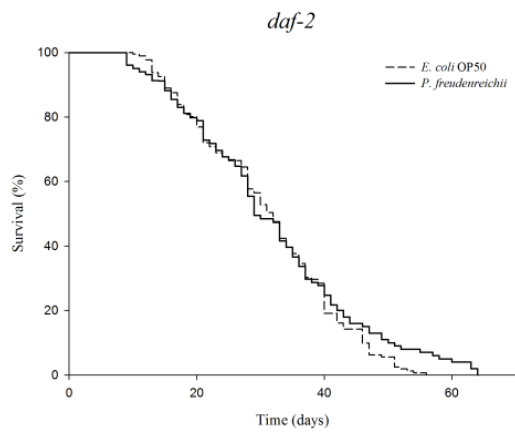
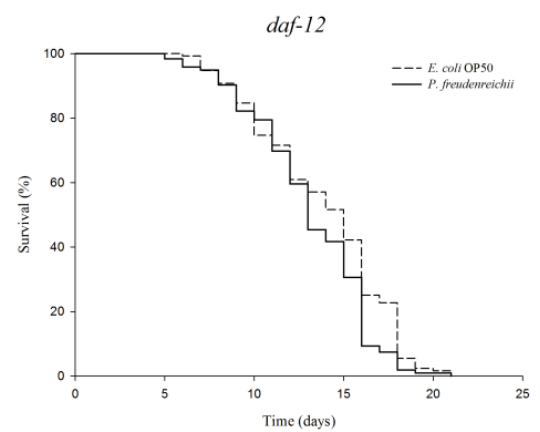
Supplementary Information

Dairy *Propionibacterium* extends the mean lifespan of *Caenorhabditis elegans* via activation of the innate immune system

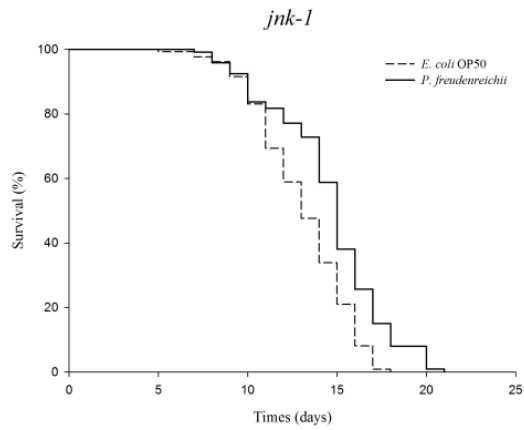
Gayeung Kwon, Jiyun Lee, Young-Hee Lim

Table S1. Primer sequences used in this study.

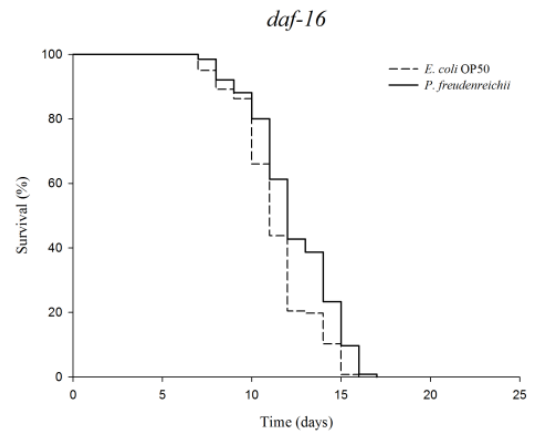
| Gene | | Primer sequence | Product size (bp) |
|---------------|---------|----------------------------|-------------------|
| <i>act-1</i> | Forward | 5' CACGGTATCGTCACCAACTG 3' | 122 |
| | Reverse | 5' GCTTCAGTGAGGAGGACTGG 3' | |
| <i>daf-2</i> | Forward | 5' GCCCGAATGTTGTGAAAAC 3' | 185 |
| | Reverse | 5' CCAGTGCTTCTGAATCGTCA 3' | |
| <i>daf-16</i> | Forward | 5' TCCTCATTCACTCCCGATT 3' | 175 |
| | Reverse | 5' CCGGTATATTCATGAACGTG 3' | |
| <i>pmk-1</i> | Forward | 5' ACTCGCCGTGATTTCAAACG 3' | 100 |
| | Reverse | 5' CAGTTGGACGACGATCTGGA 3' | |
| <i>sek-1</i> | Forward | 5' TGGCAAACACATTCCAGAGC 3' | 196 |
| | Reverse | 5' AGTCTTGGCCATGCTGTTTG 3' | |
| <i>mek-1</i> | Forward | 5' GCCTCATCATCCATCCCGTA 3' | 135 |
| | Reverse | 5' TCCACGAACTGAAGCTCCTT 3' | |
| <i>dbl-1</i> | Forward | 5' GCCATTCTCCACCTCTTCCT 3' | 149 |
| | Reverse | 5' GGAACATCAATGCTCGGACC 3' | |
| <i>daf-7</i> | Forward | 5' GTGCTGCTTGTATGACCTCG 3' | 136 |
| | Reverse | 5' GGTTTCCGCCAAGTTGAAGT 3' | |
| <i>lys-7</i> | Forward | 5' ATTCAGGTCACTTCGCCAAC 3' | 148 |
| | Reverse | 5' ATCCGGTTCGTGATCTGATT 3' | |
| <i>lys-8</i> | Forward | 5' CTCCACGAGTTCCACCAAAT 3' | 124 |
| | Reverse | 5' TATGCACGGACAAAGACTGC 3' | |
| <i>sma-3</i> | Forward | 5' CCACCGCACAGTCAATTATG 3' | 144 |
| | Reverse | 5' ATCTTCTCCCCAGCCCTTTA 3' | |
| <i>daf-12</i> | Forward | 5' GTTCTGGTGAAGCCGAAGAG 3' | 178 |
| | Reverse | 5' AAGGGTGGTTGAGGTACGTG 3' | |
| <i>skn-1</i> | Forward | 5' TCAGGACGTCAACAGCAGAC 3' | 164 |
| | Reverse | 5' CGTGGAGATTCCGAAGAGAG 3' | |

A**B****C****D****E****F**

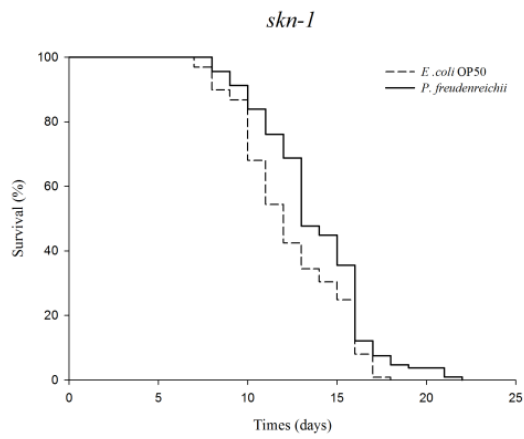
G



H



I



J

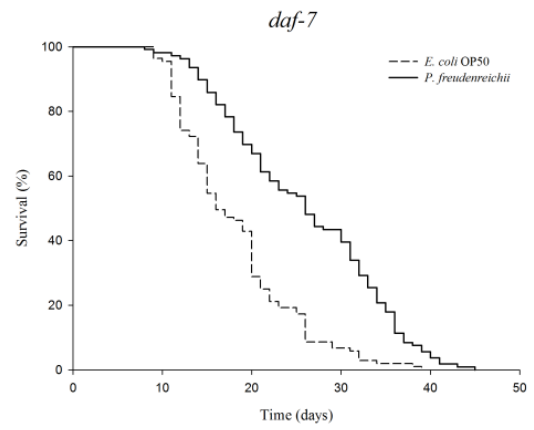


Figure S1. Effect of *P. freudenreichii* on the lifespan of *C. elegans* loss-of-function mutants. *p*-values were calculated using the log-rank test. Data were compared with *E. coli* OP50; ** $p < 0.01$, *** $p < 0.001$.

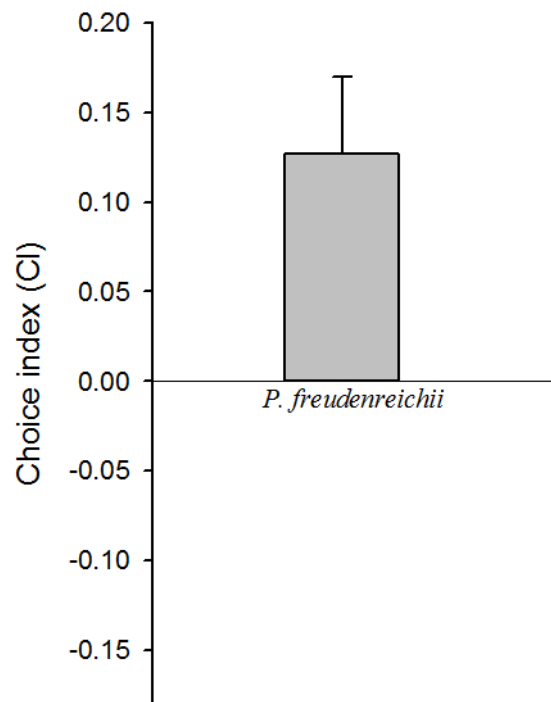


Figure S2. Binary choice assay between *P. freudenreichii* and *E. coli* OP50. The food choice index of *P. freudenreichii* compared with *E. coli* OP50.

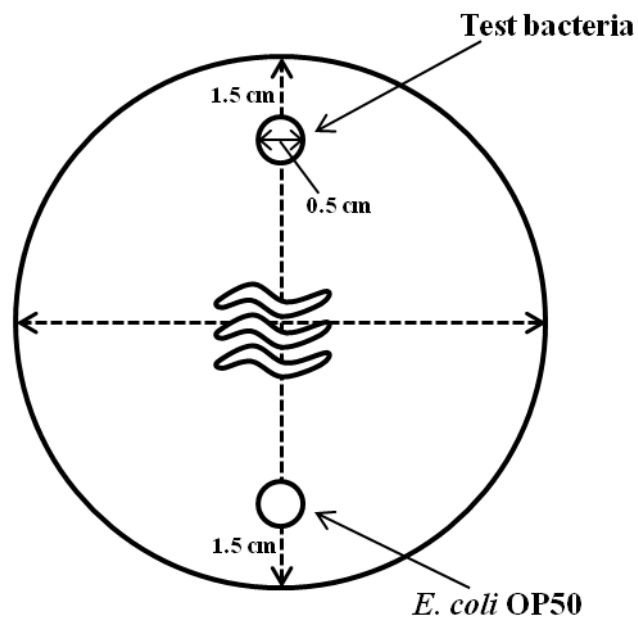


Figure S3. Schematic representation of plates used for the binary choice assay. Bacterial food was seeded at the same distance from the sides of the plates with a diameter of 0.5 cm, and nematodes (30 worms) were put on the centre of the plates.