

Supplementary Material

Potential Probiotic Lactiplantibacillus plantarum DS1800 Extends Lifespan and Enhances Stress Resistance in Caenorhabditis elegans Model

Seunghyun Kim^{1,2}, Yu-Ri Lee¹, Haneol Yang¹, Chan-Hyeok Park¹, Chan-Seok Yun¹, Byung-Chun Jang^{1,2}, Yeongjin Hong^{2*}, Doo-Sang Park^{1,3*}

¹Korean Collection for Type Cultures, Biological Resource Center, Korea Research Institute of Bioscience and Biotechnology, Jeongseup, 56212, Republic of Korea

²BioMedical Sciences Graduate Program (BMSGP), Chonnam National University Medical School, Hwasun, 58128, Republic of Korea

³KRIBB School of Bioscience, Korea University of Science and Technology, Daejeon, 34113, Republic of Korea

Running title: Life extension effect of *L. plantarum* in *C. elegans*

*** Correspondence:**

Doo-Sang Park

Tel: +82-63-570-5640, E-mail: dspark@kribb.re.kr

Yeongjin Hong

Tel: +82-61-379-8478, E-mail: yjhong@jnu.ac.kr

Supplementary Tables

Supplementary Table 1. List of 43 strains screened for lifespan extension

Species	Strain No.	Origins	Deposit No.
<i>Lactobacillus acidophilus</i>	DS0084	Yogurt	Isolated
<i>Limosilactobacillus fermentum</i>	DS0548	Infant feces	BP1883262
<i>Limosilactobacillus fermentum</i>	DS2689	Infant feces	BP1884565
<i>Limosilactobacillus fermentum</i>	DS3126	Infant feces	BP1884980
<i>Limosilactobacillus gasseri</i>	DS0462	Breast milk	BP1883163
<i>Limosilactobacillus reuteri</i>	DS0191	Pig small intestine	KCTC14231BP
<i>Limosilactobacillus reuteri</i>	DS0384	Infant feces	KCTC14164BP
<i>Limosilactobacillus reuteri</i>	DS2540	Chicken feces	BP1884422
<i>Latilactobacillus sakei</i> subsp. <i>sakei</i>	DS1270	Kimchi	BP1421263
<i>Latilactobacillus sakei</i>	DS2482	Kimchi	BP1882521
<i>Latilactobacillus sakei</i>	DS2507	Kimchi	BP1882546
<i>Lacticaseibacillus paracasei</i>	DS0896	Infant feces	BP1883409
<i>Lacticaseibacillus paracasei</i> subsp. <i>tolerans</i>	DS2916	Infant feces	BP1884786
<i>Lacticaseibacillus paracasei</i>	DS2941	Infant feces	BP1884811
<i>Lactiplantibacillus pentosus</i>	DS0884	Infant feces	BP1883399
<i>Lactiplantibacillus pentosus</i>	DS0612	Kimchi	BP1883339
<i>Lactiplantibacillus pentosus</i>	DS1273	Kimchi	BP1421266
<i>Lactiplantibacillus pentosus</i>	DS1306	Kimchi	BP1421295
<i>Lactiplantibacillus plantarum</i>	DS0786	Kimchi	BP1883390
<i>Lactiplantibacillus plantarum</i>	DS0787	Kimchi	BP1883391
<i>Lactiplantibacillus plantarum</i>	DS1902	Kimchi	BP1883956
<i>Lactiplantibacillus plantarum</i>	DS1274	Kimchi	BP1883526
<i>Lactiplantibacillus plantarum</i>	DS1800	Kimchi	BP1883740
<i>Lactiplantibacillus plantarum</i>	DS1923	Kimchi	BP1883977
<i>Lactiplantibacillus plantarum</i>	DS1929	Kimchi	BP1883983
<i>Lactiplantibacillus plantarum</i>	DS1968	Kimchi	BP1884021

<i>Lactiplantibacillus plantarum</i>	DS1989	Kimchi	BP1884041
<i>Lactiplantibacillus plantarum</i>	DS2054	Kimchi	BP1884106
<i>Lactiplantibacillus plantarum</i>	DS2073	Kimchi	BP1884125
<i>Lactiplantibacillus plantarum</i>	DS2074	Kimchi	BP1884126
<i>Lactiplantibacillus plantarum</i>	DS0888	Infant feces	BP1883383
<i>Lactiplantibacillus plantarum</i>	DS1073	Infant feces	BP1883494
<i>Lactiplantibacillus plantarum</i>	DS1530	Adult feces	BP1883589
<i>Lactiplantibacillus plantarum</i>	DS0806	Fermented pork	BP1883374
<i>Lactiplantibacillus plantarum</i>	DS0815	Fermented pork	BP1883382
<i>Lactiplantibacillus plantarum</i>	DS2368	Gallstone	BP1884367
<i>Lactiplantibacillus plantarum</i>	DS2449	Pickle	BP1884415
<i>Lactocaseibacillus rhamnosus</i>	DS0508	Infant feces	KCTC13504BP
<i>Bifidobacterium animalis</i>	DS0405	Infant feces	BP1883454
<i>Bifidobacterium bifidum</i>	DS0831	Infant feces	BP1883274
<i>Bifidobacterium longum</i> subsp. <i>longum</i>	DS1039	Infant feces	BP1883435
<i>Pediococcus pentosaceus</i>	DS1272	Kimchi	BP1421265
<i>Streptococcus salivarius</i> subsp. <i>thermolhilus</i>	DS0081	Yogurt	Isolated

Supplementary Table 2. Primer sets used for quantitative RT-PCR

Gene Name	Primer	Sequence
<i>nsy-1</i>	forward	5'-AGTTGTAGACACGCCGGTTA-3'
	reverse	5'-TGCACTG TTCAGGCTTTCAC-3'
<i>sek-1</i>	forward	5'-GCCGATGGAAAGTGGTTTTA-3'
	reverse	5'-TAAACGGCATCGCCAATAAT-3'
<i>pmk-1</i>	forward	5'-ACTTCATCCGACTCCACGAG-3'
	reverse	5'-CAGCAGCACAAACAGTTCCA-3'
<i>skn-1</i>	forward	5'-GTGTCCGGCGTTCCAGATT-3'
	reverse	5'-CAATAATGATGCTTACCGCGT-3'
<i>daf-2</i>	forward	5'-GCCCGAATGTTGTGAAAAC-3'
	reverse	5'-CCAGTGCTTCTGAATCGTCA-3'
<i>age-1</i>	forward	5'-TTCGTAGAGTGGTTTTGGGC-3'
	reverse	5'-GGTTTCTTCAATTGCTGGA-3'
<i>daf-16</i>	forward	5'-TCCTCATTCACTCCCGATT-3'
	reverse	5'-CCGGTGTATTCATGAACGTG-3'
<i>hsp-16</i>	forward	5'-CTATGGGCCCAAAGGAAGAAACGTG-3'
	reverse	5'-GGATTTCCGCGACGGTGA CTCCGTCC-3'
<i>hsp-16.1</i>	forward	5'-GCAGAGGCTCTCCATCTGAA-3'
	reverse	5'-GCTTGA ACTGCGAGACATTG-3'
<i>hsp-16.2</i>	forward	5'-CTATTTCCGTCCAGCTCAAC-3'
	reverse	5'-TTTGT TCAACGGGGCGCTTGC-3'
<i>hsp-70</i>	forward	5'-ACGGGATGCTGTCATTACTG-3'
	reverse	5'-ATGTACCTCCTCCCAAATCG-3'
<i>sma-3</i>	forward	5'-CCACCGCACAGTCAATTATG-3'
	reverse	5'-ATCTTCTCCCCAGCCCTTTA-3'
<i>abf-1</i>	forward	5'-GTACAGCACAGAAATGCATGACCGG-3'
	reverse	5'-GGCGTTTGAACAACCTCCACAGAAGC-3'
<i>lys-1</i>	forward	5'-GGATTCAGGTTACCTCCCCAGCC-3'
	reverse	5'-GGTGTAGATTCCGACAGTCAGTCCG-3'
<i>lys-7</i>	forward	5'-GCGGGTTATTGTGCAGTTTT-3'

	reverse	5'-TCAATCCGAGTCCAGCTTT-3'
<i>act-1</i>	forward	5'-GCTGGACGTGATCTTACTGATTACC-3'
	reverse	5'-GTAGCAGAGCTTCTCCTTGATGTC-3'
