Table S1. List of the primers, target genes and qPCR analysis conditions.

Primers name	Sequence	Target region	Standard curve reference species	qPCR conditions	Reference
V3V4	Forward: 5'-CCTACGGGRGGCAGCAG-3'	V3V4 region of the 16S rRNA gene	*B. subtilis*	50°C for 2 min; 95°C for 3 min; followed by 40 cycles of 30 seconds at 95°C and 30 s minute at 60°C	(Klindworth *et al.*, 2013)
	Reverse: 5'-GACTACHVGGGTATCTAATCC-3'				
Enterococcus	Forward primer: 5'-GGACGAAAGTCTGACCGA-3'	16S rRNA gene	*E.faecalis*	50°C for 2 min; 95°C for 3 min; followed by 40 cycles of 30 seconds at 95°C and 30 s minute at 60°C	(Ryu *et al.*, 2013)
	Reverse primer: 5'-TTAAGAAACCGCCTGCGC-3'				
Bacillus	Forward: 5'-ACGCCGTAAACGATGAGT-3'	16S rRNA gene	*B. subtilis*	50°C for 2 min; 95°C for 3 min; followed by 40 cycles of 30 seconds at 95°C and 30 s minute at 60°C	(Han *et al.*, 2012)
	Reverse: 5'-GTGTGTAGCCCAGGTCATAA-3'				
Lactobacillus	Forward: 5'-AGCAGTAGGGAATCTTCCA-3'	16S rRNA gene	*L. sakei*	95°C for 30 sec; followed by 40 cycles of 10 seconds at 95°C and 30 s minute at 62°C	(Louise Kristine Vigsnæs, et al. 2011, Heilig H. G. H. J., et al. 2002)
	Reverse: 5'-CACCGCTACACATGGAG-3'				
ITS1	Forward: 5'-CTACCTGCGGARGGATCA-3'	ITS1	*D. hansenii*	50°C for 2 min; 95°C for 3 min; followed by 40 cycles of 30 seconds at 95°C and 30 s minute at 57°C	(Bokulich *et al.*, 2016)
	Reverse: 5′-GAGATCCRTTGYTRAAAGTT-3′				

Table S2. Summary of the results of DNA extraction using blackPREP Food DNA I Kit, with the modification of bead treatment in the cell lysis step on the quantity and quality of DNA

	Results of DNA extraction from sausages		
Sample ID	NanoDrop	Qubit	Copy Number

	ng/µl	260/280	260/230	ng/µl	V3V4	*Lactobacillus*	*Bacillus*	*Enterococcus*	ITS
01ABP_B	14,5	1,87	0,04	2.78	1.014E+07	8.944E+06	1.72E+05	7,583E+03	5.529E+04
01BBP_B	8,6	1,7	0,22	1.73	2.154E+07	1.099E+07	8.65E+05	7,897E+03	5.969E+05
02ABP_B	10,9	1,59	0,08	1.36	1.071E+07	5.602E+06	9.58E+05	1,199E+04	1.401E+06
02BBP_B	11,5	1,54	0,45	0.98	7.440E+06	4.427E+06	8.96E+05	4,114E+03	1.830E+06
03ABP_B	43,9	1,69	0,67	6.16	6.669E+06	1.006E+07	1.99E+05	1,820E+03	9.206E+05
03BBP_B	10,3	2,2	0,18	4.12	2.723E+06	7.468E+06	3.33E+06	2,340E+03	1.273E+06
04ABP_B	41,1	1,7	0,54	3.7	4.567E+06	9.700E+06	2.53E+06	2,014E+04	1.287E+06
04BBP_B	52,1	1,54	0,39	8.46	7.461E+06	1.061E+07	2.36E+06	1,414E+04	9.929E+05
05ABP_B	19,5	1,85	0,45	2.08	3.213E+06	2.136E+06	6.802E+04	1,102E+03	4.279E+05
05BBP_B	4,6	2,8	0,15	1.54	1.612E+06	1.002E+06	5.137E+04	2,761E+02	2.635E+05
06ABP_B	8,2	1,64	0,22	2.16	2.546E+07	2.011E+07	4.213E+06	2,375E+04	1.02E+05
06BBP_B	8,8	1,54	0,23	1.65	1.479E+07	7.941E+06	1.384E+06	1,198E+04	5.15E+04
07ABP_B	8	1,63	0,25	1.36	1.871E+06	6.307E+06	8.930E+05	1,654E+03	2.683E+05
07BBP_B	5,5	1,89	0,1	0.5	1.458E+07	8.573E+06	3.854E+04	2,788E+02	8.202E+04
08ABP_B	10,4	1,46	0,15	0.3	2.027E+04	2.352E+04	2.114E+03	7,325E+01	6.368E+05
08BBP_B	5,1	1,14	0,05	0.5	4.806E+04	2.258E+04	1.968E+03	1,613E+02	3.017E+05

Table S3. Summary of the results of DNA extraction using blackPREP Food DNA I Kit, with the modification of enzymatic treatment in the cell lysis step on the quantity and quality of DNA

Results of DNA extraction from sausages									
Sample ID	NanoDrop			Qubit	Copy Number				
	ng/µl	260/280	260/230		V3V4	*Lactobacillus*	*Bacillus*	*Enterococcus*	ITS

01ABP_E	14	1,6	0,35	6.34	5.628E+06	5.181E+06	1.160E+06	1,198E+04	5.560E+05
01BBP_E	17	1,65	0,24	6.21	6.525E+06	9.231E+06	1.015E+06	9,958E+03	6.626E+05
02ABP_E	21,1	1,65	0,57	6.14	1.408E+06	7.936E+05	1.488E+05	7,562E+03	4.563E+05
02BBP_E	35	1,38	0,51	6.03	1.427E+06	6.168E+05	1.368E+05	4,610E+03	3.724E+05
03ABP_E	13,4	1,58	0,39	5.52	3.131E+06	2.516E+06	1.296E+06	3,528E+03	4.136E+05
03BBP_E	18,5	1.53	0,48	5.55	3.016E+06	1.506E+06	7.419E+05	2,976E+03	2.033E+05
04ABP_E	21	1,73	0,22	3.8	5.167E+06	4.604E+06	1.280E+06	9,813E+03	9.006E+06
04BBP_E	17,4	1,54	0,39	3.5	7.511E+06	2.531E+06	1.488E+06	1,460E+04	9.386E+06
05ABP_E	5,7	1,62	0,45	1.81	2.973E+06	6.171E+06	1.562E+05	2,103E+03	5.958E+05
05BBP_E	4,5	1,97	0,36	1.72	4.385E+06	2.221E+06	1.366E+05	7,526E+02	8.077E+05
06ABP_E	9,6	1,98	0,41	2.56	1.163E+06	7.402E+05	2.498E+05	2,031E+04	8.586E+05
06BBP_E	10,8	1,64	0,42	2.71	1.292E+06	5.973E+06	1.935E+05	1,097E+04	2.332E+06
07ABP_E	11,2	1,63	0,48	0.32	1.654E+05	1.267E+05	2.200E+04	2,092E+02	1.171E+06
07BBP_E	10,1	1,6	0,47	0.35	2.161E+05	1.316E+05	6.943E+03	1,190E+02	1.362E+06
08ABP_E	8,6	1,81	0,15	0.73	6.609E+04	1.944E+04	3.315E+03	1,342E+03	1.424E+06
08BBP_E	7,3	1,87	0,06	0.69	6.904E+04	1.173E+04	1.698E+03	1,078E+03	8.286E+05

Table S4. Summary of the results of DNA extraction using blackPREP Food DNA I Kit, with the modification of heat treatment in the cell lysis step on the quantity and quality of DNA

	Results of DNA extraction from sausages								
Sample ID	NanoDrop			Qubit	Copy Number				
	ng/µl	260/280	260/230	ng/µl	V3V4	*Lactobacillus*	*Bacillus*	*Enterococcus*	ITS
01ABP_H	6,2	2,02	0,41	1.33	1.735E+07	1.586E+07	7.160E+05	1,296E+04	7.584E+05

01BBP_H	10,3	1,79	0,16	0.95	4.382E+06	4.979E+06	1.838E+05	2,945E+03	2.347E+05
02ABP_H	65,7	1,45	0,27	3.92	1.685E+06	1.868E+06	1.575E+05	1,152E+04	1.13E+03
02BBP_H	14,7	1,77	0,21	1.17	6.341E+06	2.722E+06	4.017E+05	8,787E+03	8.60E+03
03ABP_H	22,5	1,99	0,26	1.64	7.448E+06	5.155E+06	4.465E+05	2,556E+03	1.224E+06
03BBP_H	17,9	1,97	0,42	5.5	4.365E+06	4.662E+06	1.121E+05	5,734E+02	6.833E+05
04ABP_H	16,8	1,74	0,2	3.2	7.927E+06	7.641E+06	1.845E+05	1,077E+04	8.207E+05
04BBP_H	18,2	1,87	0,23	1.86	9.211E+06	2.518E+06	4.398E+05	1,380E+04	2.515E+06
05ABP_H	4,4	1,42	0,03	0.84	1.532E+06	1.638E+06	5.193E+04	1,840E+03	1.020E+06
05BBP_H	5,9	1,41	0,05	0.3	1.249E+06	1.102E+06	4.971E+05	1,135E+03	6.544E+05
06ABP_H	6	1,72	0,24	0.3	9.317E+05	6.945E+05	5.746E+04	1,298E+04	7.182E+05
06BBP_H	4,2	1,94	0,10	0.86	1.058E+06	4.992E+05	6.520E+04	1,051E+04	6.678E+05
07ABP_H	3,1	1,92	0,08	0.89	5.527E+06	3.226E+06	2.086E+05	2,001E+03	2.219E+05
07BBP_H	7,3	1,81	0,13	0.9	2.181E+07	1.341E+07	1.655E+05	1,871E+03	5.175E+04
08ABP_H	3	1,45	0,09	0.3	2.408E+05	9.454E+04	9.982E+04	7,691E+02	2.66E+03
08BBP_H	2,7	1,06	0,06	0.47	1.003E+05	1.685E+05	2.006E+04	1,169E+03	4.06E+03

Table S5. Summary of the results of DNA extraction using DNeasy® PowerFood® Microbial Kit, with the modification of bead treatment in the cell lysis step on the quantity and quality of DNA

	Results of DNA extraction from sausages								
Sample ID	NanoDrop			Qubit	Copy Number				
	ng/µl	260/280	260/230	ng/µl	V3V4	*Lactobacillus*	*Bacillus*	*Enterococcus*	ITS
01AMB_B	7,2	1,59	0,7	6.02	4.915E+07	2.231E+07	3.320E+06	1,754E+04	6.361E+04
01BMB_B	8,7	1,61	0,41	4.62	4.609E+07	2.044E+07	2.733E+06	1,049E+04	4.137E+04

02AMB_B	10,2	1,8	1,31	8	4.467E+07	2.557E+07	3.091E+06	1,931E+04	1.779E+06
02BMB_B	10,3	1,69	1,17	4.48	5.563E+07	4.739E+07	4.631E+06	3,144E+04	3.396E+06
03AMB_B	30	1,82	0,31	12.6	4.066E+07	6.440E+07	2.574E+06	3,479E+03	1.242E+06
03BMB_B	12,8	1,82	0,8	6.18	1.264E+07	1.846E+07	8.833E+06	2,318E+04	4.286E+05
04AMB_B	11,3	1,94	1,17	11.1	8.820E+07	6.079E+08	9.830E+07	2,160E+05	1.246E+07
04BMB_B	12	1,86	0,73	5	6.632E+07	4.720E+07	9.459E+06	8,275E+04	3.179E+06
05AMB_B	6,1	2,45	0,05	4.7	1.564E+07	7.759E+06	1.497E+05	3,882E+03	2.755E+05
05BMB_B	5,6	2,23	0,45	1.75	1.030E+07	7.196E+06	3.753E+05	3,358E+03	6.463E+04
06AMB_B	12,1	1,91	0,83	14.2	1.387E+07	1.193E+07	3.141E+06	7,983E+04	2.746E+07
06BMB_B	15,3	2,2	0,42	10.6	4.285E+07	1.990E+07	2.342E+06	1,162E+05	2.006E+07
07AMB_B	3,8	1,65	0,18	8.32	4.764E+07	2.029E+07	4.552E+06	2,647E+03	3.135E+04
07BMB_B	5,3	2,2	0,11	2.56	3.429E+07	1.573E+07	3.914E+06	5,572E+03	4.968E+04
08AMB_B	5,8	2,02	0,13	4.94	4.520E+06	1.177E+06	2.534E+06	8,726E+03	6.262E+04
08BMB_B	6	1,73	0,1	2.52	4.450E+06	1.908E+06	7.447E+05	4,910E+03	1.472E+05

Table S6. Summary of the results of DNA extraction using DNeasy® PowerFood® Microbial Kit, with the modification of enzymatic treatment in the cell lysis step on the quantity and quality of DNA

Results of DNA extraction from sausages									
Sample ID	NanoDrop			Qubit	Copy Number				
	ng/µl	260/280	260/230	ng/µl	V3V3	*Lactobacillus*	*Bacillus*	*Enterococcus*	ITS
01AMB_E	15,8	1,71	0,95	18.6	7.933E+06	5.151E+06	1.225E+06	4,747E+03	2.311E+05
01BMB_E	14,5	1,8	1,1	17.8	1.191E+07	9.226E+06	1.028E+06	1,513E+03	1.257E+05
02AMB_E	7,9	1,87	0,5	4.68	3.374E+07	2.162E+07	9.656E+06	1,350E+05	6.985E+06

02BMB_E	6,2	1,85	0,55	4.71	5.107E+07	1.460E+07	8.332E+06	5,566E+04	2.270E+06
03AMB_E	27,7	1,94	0,92	26.4	6.920E+06	5.372E+06	9.541E+05	3,756E+02	4.539E+04
03BMB_E	28	2,1	0,91	25.3	7.906E+06	6.947E+06	1.088E+06	1,695E+04	1.568E+06
04AMB_E	5,6	1,8	0,15	2.72	5.143E+07	4.220E+08	4.727E+06	2,558E+04	4.22E+05
04BMB_E	6,2	1,9	0,2	1.8	6.977E+07	4.652E+07	8.838E+06	1,656E+05	3.17E+05
05AMB_E	12,2	1,82	0,47	14.4	2.596E+06	9.133E+05	6.940E+04	5,110E+03	9.765E+04
05BMB_E	11,6	1,8	0,51	9.7	2.091E+06	1.192E+06	7.183E+04	2,779E+03	1.431E+05
06AMB_E	10,2	2,99	0,2	13.6	1.069E+07	6.659E+06	7.265E+05	1,318E+04	8.831E+05
06BMB_E	8,4	2,1	0,23	12.1	3.581E+06	7.005E+06	7.949E+05	1,446E+04	1.142E+06
07AMB_E	7,2	1,75	0,22	5.5	6.350E+06	7.016E+06	9.718E+05	3,369E+03	6.321E+04
07BMB_E	6,5	1,65	0,25	4.7	6.432E+06	6.419E+06	1.322E+06	2,489E+04	6.718E+04
08AMB_E	10	1,99	0,25	12.3	3.101E+05	1.147E+05	2.276E+04	6,530E+03	1.811E+04
08BMB_E	9,1	1,92	0,24	10.6	1.966E+05	1.073E+05	1.500E+04	1,923E+04	1.867E+04

Table S7. Summary of the results of DNA extraction using DNeasy® PowerFood® Microbial Kit, with the modification of heat treatment in the cell lysis step on the quantity and quality of DNA

Results of DNA extraction from sausages									
Sample ID	NanoDrop			Qubit	Copy Number				
	ng/µl	260/280	260/230	ng/µl	V3V4	*Lactobacillus*	*Bacillus*	*Enterococcus*	ITS
01AMB_H	10,8	1,97	0,33	2.74	3.522E+06	2.050E+07	2.863E+06	1,187E+04	8.139E+04
01BMB_H	25,5	2	0,83	3.92	1.539E+06	2.014E+07	3.513E+06	4,392E+03	7.925E+04
02AMB_H	16,9	2,15	1,07	0.5	2.921E+06	6.192E+06	4.701E+06	1,525E+04	9.511E+05
02BMB_H	13,7	2,11	0,2	3.62	2.851E+06	1.861E+07	2.884E+06	6,977E+03	2.089E+06

03AMB_H	17,7	1,97	1,41	0.76	2.751E+06	3.426E+07	4.833E+06	4,327E+03	9.343E+04
03BMB_H	18,8	1,99	1,51	3.5	7.048E+06	1.139E+07	3.025E+06	1,967E+03	3.659E+05
04AMB_H	13,4	2,01	0,72	2.32	1.377E+07	4.533E+07	2.035E+07	2,740E+03	1.816E+06
04BMB_H	15,6	1,76	0,63	5	1.297E+07	2.386E+07	7.474E+09	5,153E+04	2.166E+06
05AMB_H	18,7	1,74	0,79	3.96	1.501E+06	2.575E+06	9.380E+04	3,662E+03	1.488E+05
05BMB_H	5,6	1,84	0,62	1.3	8.962E+05	9.057E+05	5.003E+04	1,294E+04	7.832E+04
06AMB_H	17,2	1,92	0,88	12.9	2.521E+06	4.348E+06	5.220E+05	5,406E+04	2.22E+05
06BMB_H	16,5	1,94	0,83	11.7	2.503E+06	9.499E+05	1.580E+05	1,815E+04	3.10E+05
07AMB_H	9,3	2,2	1,07	1.36	1.386E+07	2.343E+07	1.824E+06	2,134E+04	3.360E+04
07BMB_H	9,6	2,03	0,76	3.6	4.067E+06	1.559E+07	1.701E+06	5,535E+03	4.228E+04
08AMB_H	9,5	2,1	1,84	2.5	2.586E+05	1.645E+06	2.661E+04	6,038E+03	1.443E+05
08BMB_H	9,7	1,98	1,9	9.2	2.025E+05	8.388E+05	2.888E+04	2,902E+04	1.025E+05

Table S8. Summary of the results of DNA extraction using Nucleospin® Food Kit, with the modification of bead treatment in the cell lysis step on the quantity and quality of DNA

	Results of DNA extraction from sausages								
Sample ID	NanoDrop			Qubit	Copy Number				
	ng/µl	260/280	260/230	ng/µl	V3V4	*Lactobacillus*	*Bacillus*	*Enterococcus*	ITS
01ANS_B	6,6	1,44	0,53	13.3	1.880E+06	4.856E+06	3.796E+06	3,676E+03	9.031E+04
01BNS_B	12,9	1,74	0,79	22.2	4.097E+06	8.461E+06	7.585E+06	4,484E+03	1.000E+05
02ANS_B	13,3	1,57	0,56	8.52	7.969E+06	1.404E+07	1.249E+06	4,162E+03	1.325E+06
02BNS_B	12,5	1,49	0,54	16.6	1.239E+06	2.326E+06	9.912E+06	8,198E+03	1.281E+05
03ANS_B	32,9	2,04	1,34	22.8	9.950E+06	2.381E+07	1.641E+06	1,135E+03	6.341E+05

03BNS_B	27	2,03	1,82	14.4	5.709E+06	1.201E+07	3.509E+07	1,340E+03	1.387E+05
04ANS_B	39,3	1,98	1,54	17.2	1.052E+07	1.787E+07	4.373E+05	2,613E+04	3.15E+06
04BNS_B	34	2,1	1,61	8.78	2.031E+07	4.675E+07	7.632E+05	9,874E+03	2.23E+06
05ANS_B	15,1	2,03	1,31	17	2.697E+06	6.158E+06	4.195E+05	1,037E+03	2.769E+05
05BNS_B	19,1	2,02	1,25	9.28	1.892E+06	5.291E+06	7.455E+06	4,046E+03	1.906E+05
06ANS_B	26,3	1,77	1,48	24.2	5.635E+06	1.195E+07	1.491E+07	1,848E+04	1.605E+06
06BNS_B	24,5	1,74	1,45	14.5	5.157E+06	3.094E+07	9.043E+06	1,072E+04	1.807E+06
07ANS_B	16,3	1,79	1,31	12.3	9.002E+06	3.044E+07	9.675E+06	4,948E+03	1.985E+05
07BNS_B	21,2	1,69	0,99	6.78	6.274E+06	1.185E+07	7.557E+05	3,458E+03	1.922E+05
08ANS_B	16,9	1,51	1,01	3.4	5.740E+05	9.527E+05	3.345E+05	2,477E+03	1.069E+05
08BNS_B	10,5	1,62	1,16	11.4	7.764E+05	1.461E+06	3.796E+06	1,39E+03	9.077E+04

Table S9. Summary of the results of DNA extraction using Nucleospin® Food Kit, with the modification of enzymatic treatment in the cell lysis step on the quantity and quality of DNA

	Results of DNA extraction from sausages								
Sample ID	NanoDrop			Qubit	Copy Number				
	ng/µl	260/280	260/230	ng/µl	V3V4	*Lactobacillus*	*Bacillus*	*Enterococcus*	ITS
01ANS_E	13,9	1,55	0,72	25.6	2.815E+06	5.265E+06	1.692E+06	4,694E+03	1.053E+05
01BNS_E	12,5	1,65	0,74	23.1	3.009E+06	4.187E+06	1.028E+06	5,352E+03	3.440E+04
02ANS_E	7,4	1,42	0,65	7.24	2.412E+06	1.800E+06	9.656E+06	2,054E+04	4.65E+05
02BNS_E	8	1,38	0,61	6.5	2.205E+06	1.925E+06	8.332E+06	1,614E+04	2.05E+05
03ANS_E	7,7	1,30	0,65	12.7	1.360E+06	3.292E+06	9.541E+05	2,361E+03	4.845E+05
03BNS_E	6,9	1,48	0,68	8.9	1.269E+06	2.647E+06	1.088E+06	1,969E+03	4.905E+05

04ANS_E	6,3	1,55	0,62	7.98	5.927E+06	1.498E+07	4.727E+06	4,799E+04	3.669E+06
04BNS_E	7	1,54	0,69	6.81	7.678E+06	1.127E+07	8.838E+06	7,085E+04	1.019E+07
05ANS_E	8,8	1,56	0,79	12.9	5.014E+05	7.230E+05	6.940E+04	7,994E+02	4.981E+05
05BNS_E	8,5	1,7	0,76	11.8	4.576E+05	5.005E+05	7.183E+04	3,774E+03	5.373E+05
06ANS_E	16,5	1,89	1,39	42	1.905E+05	4.416E+05	7.265E+05	6,929E+03	1.375E+06
06BNS_E	17	1,89	1,21	37.2	2.702E+05	9.453E+05	7.949E+05	1,794E+04	3.196E+06
07ANS_E	7,2	1,7	0,7	12.2	2.573E+05	2.433E+05	9.718E+05	1,663E+03	5.245E+04
07BNS_E	9,1	1,7	0,77	13.5	3.729E+05	1.634E+05	1.322E+06	1,138E+03	2.497E+04
08ANS_E	8,3	1,67	1,06	24.8	2.257E+05	1.141E+04	2.276E+04	2,959E+02	7.84E+04
08BNS_E	7,9	1,87	0,98	25.3	1.927E+05	1.358E+04	1.500E+04	4,379E+03	1.33E+04

Table S10. Summary of the results of DNA extraction using Nucleospin® Food Kit, with the modification of thermal treatment in the cell lysis step on the quantity and quality of DNA

Results of DNA extraction from sausages									
Sample ID	NanoDrop			Qubit	Copy Number				
	ng/µl	260/280	260/230	ng/µl	V3V4	*Lactobacillus*	*Bacillus*	*Enterococcus*	ITS
01ANS_H	28,8	1,88	1,66	4.62	1.353E+05	2.450E+07	6.250E+06	8,072E+03	8.435E+04
01BNS_H	34,4	1,87	1,53	15.6	8.751E+04	2.556E+07	9.062E+06	3,614E+03	9.053E+04
02ANS_H	20,7	1,7	1	4.56	1.214E+07	1.292E+07	8.343E+06	1,892E+04	3.200E+06
02BNS_H	16	2,01	1,32	1.46	8.006E+06	1.279E+07	9.550E+06	7,170E+04	3.109E+06
03ANS_H	25,6	1,78	1,42	9.06	8.110E+06	1.395E+07	1.531E+07	3,418E+03	3.676E+06
03BNS_H	24	1,75	0,72	2.84	9.638E+06	2.513E+03	6.066E+06	6,668E+03	1.374E+06
04ANS_H	12,1	1,73	0,95	1.78	3.109E+07	8.172E+08	3.733E+07	1,125E+05	4.053E+06

04BNS_H	18	1,86	1,07	2.14	3.937E+07	1.090E+10	3.626E+07	1,820E+05	3.519E+06
05ANS_H	12,6	1,45	0,98	9.6	1.102E+06	1.985E+06	1.891E+05	2,324E+03	3.356E+05
05BNS_H	6,1	1,73	1,12	2.14	1.203E+06	9.522E+05	8.286E+04	2,938E+03	8.371E+04
06ANS_H	40,4	1,89	1,58	23.2	1.620E+06	1.155E+06	9.262E+06	2,794E+04	1.02E+04
06BNS_H	30,3	1,84	1,21	8.86	1.324E+06	7.887E+05	5.739E+03	4,341E+03	2.64E+04
07ANS_H	18,3	1,67	0,68	3	6.645E+06	7.184E+06	2.392E+06	5,371E+03	1.076E+05
07BNS_H	18,7	1,70	0,94	2.94	3.081E+06	4.183E+06	2.179E+06	5,162E+03	9.495E+04
08ANS_H	16,4	1,57	0,92	4.76	3.098E+05	9.655E+04	4.120E+04	6,275E+02	1.254E+05
08BNS_H	17,6	1,7	1,16	15	6.071E+05	1.241E+05	1.520E+05	5,425E+03	4.194E+05

Table S11. Selected bacteria calculation of 16S rRNA copy number

Bacterium	**Concentration (ng/µl)**	**Genome size/weight**		**1 ng gDNA contains**	**16S rDNA copies /genome**	**1 ng gDNA contains**
B. lactis	0.1	$2x10^6$ bp	0.002 pg	4.562×10^5	4	$1.825x10^6$
B. subtilis	1	4214810 bp	0.004pg	$5.41x10e^5$	10	5.41x10e6
E. faecalis	1	3026016 bp	0.003 pg	$3.3x10^5$	4	$1.32x10e^6$
Lat. sakei	10	199341 bp	0.002 pg	4.711×10^5	5-8 median 7	$1.65x10e^6$

Table S12. Information regarding identified number of reads, bacterial alpha diversity indexes and observed OTU per analyzed sample.

Sample-ID	**Filtered reads**	**Denoized reads**	**Shannon**	**Simpson**	**Chao1**	**Observed OTUs**
BP_B_1A	83637	52734	5.224233	0.963886	78	77
BP_B_2A	165029	112078	4.176149	0.915553	118	88
BP_B_2B	199615	89618	3.54017	0.881099	108	74
BP_B_3A	65402	47081	4.393841	0.922917	88	75
BP_B_3B	43863	16663	3.479265	0.885514	35	34
BP_B_4A	57268	43377	3.594215	0.880822	61	60
BP_B_4B	37296	28853	3.61376	0.885066	54	51
BP_B_5A	58135	39699	3.875437	0.880162	117	109
BP_B_5B	35379	23511	3.722531	0.871735	85	81
BP_B_6A	55402	43589	3.785431	0.908505	53	45

BP_B_6B	87823	67457	3.733713	0.904808	57	52
BP_B_7A	50739	40542	3.346462	0.876422	38	37
BP_B_8A	23959	17008	3.18769	0.843092	41	40
BP_B_8B	17809	13255	3.866778	0.895075	45	45
BP_E_1A	63217	19632	4.166267	0.906676	76	76
BP_E_2A	120008	21351	5.822622	0.969897	161	157
BP_E_3A	122146	30760	4.47363	0.930027	104	94
BP_E_4A	133705	22080	5.240898	0.962249	84	80
BP_E_5A	109292	41373	2.889306	0.784383	111	98
BP_E_6A	55461	12456	4.333143	0.898793	77	77
BP_H_1A	66632	41363	5.305602	0.961716	95	91
BP_H_1B	236024	26419	6.222583	0.978182	246	229
BP_H_2A	39832	26443	4.735188	0.94351	89	84
BP_H_2B	103267	39511	3.228163	0.811924	97	81
BP_H_3A	73288	18048	3.849169	0.888053	67	65
BP_H_3B	77219	15677	4.247093	0.921096	71	69
BP_H_4A	81493	63072	3.519785	0.859186	89	80
BP_H_5A	57413	39838	4.047769	0.907303	113	97
BP_H_6A	75493	52460	4.647279	0.934947	130	121
BP_H_6B	41000	28423	4.715924	0.937476	116	110
BP_H_7A	58633	44847	3.645252	0.89272	70	65
BP_H_7B	58442	23379	5.222976	0.94382	143	141
BP_H_8A	46607	30208	4.938978	0.924347	204	190
BP_H_8B	167495	107029	3.540086	0.864019	75	61
MB_B_1A	82775	51883	5.268091	0.964294	83	79
MB_B_1B	39658	25492	5.275134	0.967021	64	64
MB_B_2A	47053	32052	3.689023	0.892191	42	41
MB_B_2B	97476	67519	3.895533	0.905388	66	58
MB_B_3A	42031	30871	4.484501	0.941523	49	48
MB_B_3B	33420	23692	4.40651	0.93865	45	44
MB_B_4A	51042	39754	3.527464	0.872689	56	51
MB_B_4B	18335	14140	3.191085	0.849317	34	34
MB_B_5A	193796	63488	3.160936	0.808276	156	118
MB_B_5B	56026	22619	2.654419	0.775867	59	53
MB_B_6A	45875	35316	3.627453	0.890281	45	44
MB_B_6B	50185	37485	3.704905	0.894263	44	41
MB_B_7A	57678	45919	3.196147	0.858911	38	36
MB_B_7B	63590	51272	3.279998	0.871089	42	39
MB_B_8B	34903	27468	3.306094	0.863252	63	60
MB_E_1A	100215	22853	4.225306	0.916066	82	77
MB_E_2A	163781	16739	4.863376	0.944061	91	90

MB_E_4A	196099	18508	4.863303	0.935141	95	95
MB_E_5A	69645	19043	3.260752	0.813248	77	75
MB_H_1A	87043	25163	4.239669	0.917032	82	76
MB_H_1B	56921	16851	4.149207	0.913881	72	71
MB_H_3A	107649	27535	3.615194	0.891379	53	49
MB_H_3B	96067	24156	3.670464	0.892572	56	50
MB_H_4A	164945	20942	4.778726	0.937567	75	72
MB_H_4B	129827	18227	4.638021	0.928376	73	73
MB_H_5A	60411	19431	3.341471	0.821656	118	109
MB_H_5B	48338	12798	3.902015	0.866203	97	95
MB_H_6A	105011	11557	4.710316	0.916414	113	113
MB_H_6B	53444	16173	5.42069	0.954661	136	136
MB_H_7B	245811	11531	4.000432	0.885095	90	90
NS_B_1A	41127	29017	4.468093	0.929074	78	75
NS_B_1B	62100	17172	4.167425	0.905183	79	77
NS_B_2A	129761	36411	4.524187	0.916584	156	132
NS_B_2B	58244	39208	4.391303	0.927586	80	77
NS_B_3A	58885	37820	4.425927	0.938482	49	48
NS_B_3B	61652	20275	3.69155	0.895768	45	44
NS_B_4A	98443	69934	3.55086	0.869655	77	69
NS_B_4B	56764	35445	4.167554	0.875983	400	285
NS_B_5A	46208	32691	3.916899	0.916251	50	48
NS_B_5B	108078	40472	3.568979	0.827326	186	153
NS_B_6A	117888	83082	4.063091	0.912323	102	92
NS_B_6B	46668	19769	6.58079	0.969976	670	624
NS_B_7A	91013	66774	3.521746	0.877951	87	68
NS_B_7B	33899	20601	4.350814	0.913668	139	134
NS_B_8A	45884	33568	3.766014	0.878238	92	87
NS_B_8B	50898	12973	3.709177	0.883215	51	48
NS_E_1A	97396	31019	4.474191	0.926455	101	94
NS_E_2A	129381	21915	5.278	0.95673	97	95
NS_E_3A	140996	32043	4.786661	0.943135	100	91
NS_E_5A	146771	34895	4.52752	0.898393	193	171
NS_E_6A	54546	14309	5.603758	0.961753	163	163
NS_H_1B	63247	47589	3.748236	0.878768	110	101
NS_H_2A	77734	50162	4.500912	0.927954	98	85
NS_H_2B	51635	28683	6.384858	0.974115	325	288
NS_H_3A	62285	38442	4.36433	0.921398	78	67
NS_H_3B	59552	38740	5.492371	0.967746	119	112
NS_H_4A	25033	18727	3.824004	0.89609	52	52
NS_H_4B	70828	52568	3.943562	0.88801	96	89

NS_H_5A	46017	26641	4.050941	0.873351	142	133
NS_H_5B	73558	24655	3.491652	0.831069	135	118
NS_H_6A	39155	25383	5.186418	0.952165	152	142
NS_H_6B	228311	58272	5.672429	0.953185	367	295
NS_H_7A	48883	36536	3.710745	0.885369	83	81
NS_H_8A	79938	22402	6.263226	0.976396	267	256
NS_H_8B	129435	83983	4.661673	0.932932	159	121