

Table S1: Complete list and phylogenetic/phenotypic details of isolates

| Group     | Isolate | Seq'd | cpn60 UT Nearest Neighbour       | ISR peaks |        |        |        | Phenotype |                                 |               |
|-----------|---------|-------|----------------------------------|-----------|--------|--------|--------|-----------|---------------------------------|---------------|
|           |         |       |                                  | Major     | Minor1 | Minor2 | Minor3 | Acid+     | H <sub>2</sub> O <sub>2</sub> + | Double-strong |
| L. sp. N6 | M018-04 | Y     | <i>Lactobacillus</i> sp. N6 100% | 284       | 290    | 488    |        | 0         | 1                               |               |
|           | M051-04 | Y     | <i>Lactobacillus</i> sp. N6 97%  | 368       | 290    | 251    | 488    | 1         | 0                               |               |
|           | M051-05 | Y     | <i>Lactobacillus</i> sp. N6 98%  | 290       | 252    | 488    |        | 0         | 0                               |               |
|           | M161-01 | Y     | <i>Lactobacillus</i> sp. N6 97%  | 289       | 313    | 488    | 415    | 2         | 2                               |               |
|           | M170-03 | Y     | <i>Lactobacillus</i> sp. N6 96%  | 290       | 488    |        |        | 0         | 1                               |               |
|           | M207-02 | Y     | <i>Lactobacillus</i> sp. N6 100% | 290       | 488    |        |        | 0         | 1                               |               |
|           | P001-01 | Y     | <i>Lactobacillus</i> sp. N6 97%  | 289       | 490    |        |        | 0         | 0                               |               |
|           | P009-08 | Y     | <i>Lactobacillus</i> sp. N6 97%  | 293       | 304    | 315    |        | 0         | 1                               |               |
|           | P011-07 | Y     | <i>Lactobacillus</i> sp. N6 96%  | 290       | 488    |        |        | 3         | 3                               | Y             |
|           | M001-03 |       |                                  | 290       | 488    |        |        | 0         | 1                               |               |
|           | M001-04 |       |                                  | 290       | 488    |        |        | 0         | 1                               |               |
|           | M001-05 |       |                                  | 290       | 488    |        |        | 0         | 1                               |               |
|           | M001-06 |       |                                  | 290       | 488    |        |        | 0         | 1                               |               |
|           | M007-01 |       |                                  | 290       | 488    |        |        | 0         | 0                               |               |
|           | M007-02 |       |                                  | 290       | 488    |        |        | 0         | 0                               |               |
|           | M007-03 |       |                                  | 290       | 488    | 670    |        | 0         | 0                               |               |
|           | M007-04 |       |                                  | 290       | 488    |        |        | 0         | 0                               |               |
|           | M007-05 |       |                                  | 290       | 488    |        |        | 0         | 0                               |               |
|           | M007-06 |       |                                  | 290       | 488    |        |        | 0         | 0                               |               |
|           | M018-03 |       |                                  | 290       | 488    |        |        | 0         | 1                               |               |
|           | M018-06 |       |                                  | 290       | 488    |        |        | 0         | 1                               |               |
|           | M022-03 |       |                                  | 290       | 488    |        |        | 0         | 1                               |               |
|           | M024-01 |       |                                  | 290       |        |        |        | 0         | 0                               |               |
|           | M024-03 |       |                                  | 290       | 489    |        |        | 0         | 0                               |               |
|           | M024-04 |       |                                  | 290       | 489    |        |        | 0         | 0                               |               |
|           | M024-05 |       |                                  | 290       | 489    |        |        | 0         | 0                               |               |
|           | M025-03 |       |                                  | 290       | 488    |        |        | 0         | 0                               |               |
|           | M025-04 |       |                                  | 290       | 488    |        |        | 0         | 0                               |               |
|           | M025-06 |       |                                  | 290       | 488    |        |        | 0         | 1                               |               |
|           | M027-02 |       |                                  | 290       | 488    |        |        | 1         | 1                               |               |
|           | M038-02 |       |                                  | 290       | 488    |        |        | 0         | 0                               |               |
|           | M038-03 |       |                                  | 290       | 488    |        |        | 0         | 0                               |               |
|           | M050-01 |       |                                  | 290       | 489    |        |        | 1         | 1                               |               |
|           | M050-04 |       |                                  | 290       | 488    |        |        | 0         | 0                               |               |
|           | M051-01 |       |                                  | 290       | 488    |        |        | 0         | 0                               |               |
|           | M051-02 |       |                                  | 290       | 488    | 251    |        | 0         | 0                               |               |
|           | M051-06 |       |                                  | 290       | 252    | 488    |        | 0         | 1                               |               |
|           | M061-05 |       |                                  | 290       | 489    |        |        | 0         | 1                               |               |
|           | M067-02 |       |                                  | 290       | 489    | 383    |        | 1         | 2                               |               |
|           | M072-01 |       |                                  | 290       | 489    |        |        | 0         | 1                               |               |

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| Group             | Isolate | Seq'd | cpn60 UT Nearest Neighbour | ISR peaks |        |        |        | Phenotype |                                 |               |
|-------------------|---------|-------|----------------------------|-----------|--------|--------|--------|-----------|---------------------------------|---------------|
|                   |         |       |                            | Major     | Minor1 | Minor2 | Minor3 | Acid+     | H <sub>2</sub> O <sub>2</sub> + | Double-strong |
| L. sp. N6 (cont.) | M072-02 |       |                            | 290       | 489    |        |        | 0         | 1                               |               |
|                   | M080-03 |       |                            | 290       | 488    |        |        | 0         | 1                               |               |
|                   | M080-04 |       |                            | 290       | 489    |        |        | 0         | 1                               |               |
|                   | M087-01 |       |                            | 290       | 489    | 271    |        | 0         | 1                               |               |
|                   | M101-02 |       |                            | 290       | 489    | 251    |        | 0         | 1                               |               |
|                   | M101-03 |       |                            | 290       | 489    | 251    |        | 0         | 1                               |               |
|                   | M103-03 |       |                            | 290       | 489    |        |        | 0         | 1                               |               |
|                   | M103-04 |       |                            | 290       | 489    |        |        | 0         | 1                               |               |
|                   | M103-05 |       |                            | 290       | 489    |        |        | 0         | 1                               |               |
|                   | M110-03 |       |                            | 290       | 488    |        |        | 0         | 1                               |               |
|                   | M113-01 |       |                            | 290       | 489    |        |        | 0         | 0                               |               |
|                   | M113-02 |       |                            | 290       | 489    | 276    |        | 0         | 0                               |               |
|                   | M113-03 |       |                            | 290       | 489    |        |        | 0         | 0                               |               |
|                   | M113-04 |       |                            | 290       | 489    |        |        | 0         | 0                               |               |
|                   | M122-04 |       |                            | 290       | 488    |        |        | 0         | 1                               |               |
|                   | M124-02 |       |                            | 289       | 490    |        |        | 0         | 0                               |               |
|                   | M124-03 |       |                            | 289       | 490    | 274    |        | 0         | 0                               |               |
|                   | M126-04 |       |                            | 290       | 489    |        |        | 0         | 1                               |               |
|                   | M126-05 |       |                            | 290       | 489    | 260    |        | 0         | 1                               |               |
|                   | M126-07 |       |                            | 290       | 489    |        |        | 1         | 1                               |               |
|                   | M127-04 |       |                            | 290       | 489    |        |        | 0         | 1                               |               |
|                   | M131-01 |       |                            | 290       | 489    |        |        | 1         | 0                               |               |
|                   | M131-03 |       |                            | 290       | 489    |        |        | 1         | 0                               |               |
|                   | M135-07 |       |                            | 290       | 489    |        |        | 1         | 2                               |               |
|                   | M135-09 |       |                            | 290       | 489    |        |        | 1         | 2                               |               |
|                   | M139-01 |       |                            | 290       | 489    |        |        | 0         | 1                               |               |
|                   | M139-02 |       |                            | 290       | 489    |        |        | 0         | 1                               |               |
|                   | M139-03 |       |                            | 290       | 489    |        |        | 0         | 1                               |               |
|                   | M139-05 |       |                            | 290       | 489    |        |        | 0         | 1                               |               |
|                   | M145-01 |       |                            | 290       | 488    |        |        | 0         | 1                               |               |
|                   | M145-03 |       |                            | 290       | 488    |        |        | 0         | 1                               |               |
|                   | M145-04 |       |                            | 290       | 488    |        |        | 0         | 0                               |               |
|                   | M145-06 |       |                            | 290       | 488    |        |        | 0         | 0                               |               |
|                   | M155-01 |       |                            | 289       | 489    |        |        | 0         | 0                               |               |
|                   | M155-02 |       |                            | 289       | 490    |        |        | 0         | 0                               |               |
|                   | M155-05 |       |                            | 289       | 490    |        |        | 0         | 0                               |               |
|                   | M157-01 |       |                            | 290       | 488    |        |        | 0         | 0                               |               |
|                   | M157-02 |       |                            | 290       | 488    |        |        | 0         | 1                               |               |
|                   | M161-03 |       |                            | 290       | 488    |        |        | 2         | 2                               |               |
|                   | M161-05 |       |                            | 289       | 488    |        |        | 0         | 0                               |               |

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| Group             | Isolate | Seq'd | cpn60 UT Nearest Neighbour      | ISR peaks |        |        |        | Phenotype |                                 |               |
|-------------------|---------|-------|---------------------------------|-----------|--------|--------|--------|-----------|---------------------------------|---------------|
|                   |         |       |                                 | Major     | Minor1 | Minor2 | Minor3 | Acid+     | H <sub>2</sub> O <sub>2</sub> + | Double-strong |
| L. sp. N6 (cont.) | M161-06 |       |                                 | 289       | 489    |        |        | 0         | 1                               |               |
|                   | M162-02 |       |                                 | 290       | 488    |        |        | 0         | 1                               |               |
|                   | M162-05 |       |                                 | 290       | 488    |        |        | 0         | 1                               |               |
|                   | M163-01 |       |                                 | 290       | 488    |        |        | 0         | 1                               |               |
|                   | M163-02 |       |                                 | 290       | 489    |        |        | 0         | 1                               |               |
|                   | M165-02 |       |                                 | 289       | 488    |        |        | 0         | 1                               |               |
|                   | M165-03 |       |                                 | 289       | 488    |        |        | 0         | 0                               |               |
|                   | M165-04 |       |                                 | 289       | 488    |        |        | 0         | 1                               |               |
|                   | M167-01 |       |                                 | 289       | 487    |        |        | 1         | 1                               |               |
|                   | M170-04 |       |                                 | 290       | 489    |        |        | 0         | 1                               |               |
|                   | M178-02 |       |                                 | 290       | 488    |        |        | 0         | 1                               |               |
|                   | M200-01 |       |                                 | 290       | 488    | 252    |        | 0         | 0                               |               |
|                   | M200-04 |       |                                 | 290       | 488    |        |        | 0         | 0                               |               |
|                   | M203-01 |       |                                 | 289       | 490    |        |        | 0         | 0                               |               |
|                   | M203-02 |       |                                 | 289       | 490    |        |        | 0         | 0                               |               |
|                   | M203-03 |       |                                 | 289       | 490    |        |        | 0         | 0                               |               |
|                   | M205-02 |       |                                 | 290       | 488    |        |        | 0         | 1                               |               |
|                   | M205-04 |       |                                 | 290       | 488    |        |        | 0         | 1                               |               |
|                   | M205-07 |       |                                 | 290       | 488    | 353    |        | 1         | 0                               |               |
|                   | P001-06 |       |                                 | 289       | 490    |        |        | 0         | 0                               |               |
|                   | P001-10 |       |                                 | 289       | 490    |        |        | 0         | 0                               |               |
|                   | P001-17 |       |                                 | 289       | 490    |        |        | 0         | 0                               |               |
|                   | P001-18 |       |                                 | 289       | 490    |        |        | 0         | 0                               |               |
|                   | P009-04 |       |                                 | 289       | 490    |        |        | 0         | 1                               |               |
| P009-05           |         |       | 289                             | 490       |        |        | 0      | 1         |                                 |               |
| P009-06           |         |       | 289                             | 490       |        |        | 0      | 1         |                                 |               |
| P009-07           |         |       | 289                             | 490       | 274    |        | 0      | 1         |                                 |               |
| P011-08           |         |       | 290                             | 488       |        |        | 3      | 3         | Y                               |               |
| L. sp. N27        | M104-08 | Y     | <i>Lactobacillus</i> sp. N6 83% | 283       | 480    |        |        | 2         | 1                               |               |
|                   | M012-01 |       |                                 | 283       | 480    |        |        | 2         | 1                               |               |
|                   | M012-02 |       |                                 | 283       | 290    | 480    |        | 2         | 1                               |               |
|                   | M012-03 |       |                                 | 283       | 480    |        |        | 2         | 1                               |               |
|                   | M012-04 |       |                                 | 283       | 480    | 112    |        | 2         | 1                               |               |
|                   | M013-01 |       |                                 | 283       | 479    |        |        | 2         | 2                               |               |
|                   | M013-04 |       |                                 | 283       | 479    |        |        | 2         | 2                               |               |
|                   | M061-02 |       |                                 | 283       | 145    | 480    |        | 1         | 1                               |               |
|                   | M061-03 |       |                                 | 283       | 480    |        |        | 1         | 1                               |               |
|                   | M061-04 |       |                                 | 283       |        |        |        | 1         | 1                               |               |
|                   | M104-02 |       |                                 | 283       | 480    |        |        | 2         | 0                               |               |
|                   | M131-02 |       |                                 | 283       | 479    |        |        | 1         | 0                               |               |

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| Group              | Isolate    | Seq'd   | cpn60 UT Nearest Neighbour                       | ISR peaks                                  |        |        |        | Phenotype |                                 |               |  |
|--------------------|------------|---------|--------------------------------------------------|--------------------------------------------|--------|--------|--------|-----------|---------------------------------|---------------|--|
|                    |            |         |                                                  | Major                                      | Minor1 | Minor2 | Minor3 | Acid+     | H <sub>2</sub> O <sub>2</sub> + | Double-strong |  |
| L. sp. N27 (cont.) | M135-06    |         |                                                  | 283                                        | 479    |        |        | 2         | 2                               |               |  |
|                    | M135-08    |         |                                                  | 283                                        | 479    |        |        | 2         | 2                               |               |  |
|                    | M136-03    |         |                                                  | 283                                        | 480    |        |        | 2         | 1                               |               |  |
|                    | M156-01    |         |                                                  | 283                                        | 130    | 480    |        | 2         | 2                               |               |  |
|                    | M156-02    |         |                                                  | 283                                        | 130    | 145    | 480    | 2         | 2                               |               |  |
|                    | P009-01    |         |                                                  | 283                                        | 479    |        |        | 3         | 0                               |               |  |
|                    | P009-09    |         |                                                  | 283                                        | 479    |        |        | 3         | 0                               |               |  |
|                    | P009-10    |         |                                                  | 283                                        | 479    |        |        | 3         | 0                               |               |  |
|                    | P022-01    |         |                                                  | 283                                        | 479    |        |        | 2         | 0                               |               |  |
|                    | P022-03    |         |                                                  | 283                                        | 479    |        |        | 2         | 0                               |               |  |
|                    | P030-08    |         |                                                  | 283                                        | 479    |        |        | 2         | 0                               |               |  |
|                    | P030-14    |         |                                                  | 283                                        | 479    |        |        | 2         | 0                               |               |  |
|                    | L. oris    | P025-05 | Y                                                | <i>Lactobacillus oris</i> F0423 100%       | 291    | 183    | 486    |           | 2                               | 2             |  |
|                    | L. sp. N19 | P025-07 | Y                                                | <i>Lactobacillus reuteri</i> ATCC23272 93% | 290    | 485    |        |           | 2                               | 2             |  |
| P025-08            |            | Y       | <i>Lactobacillus reuteri</i> ATCC23272 93%       | 290                                        | 485    |        |        | 2         | 2                               |               |  |
| L. reuteri         | M091-02    | Y       | <i>Lactobacillus reuteri</i> ATCC23272 100%      | 289                                        | 491    |        |        | 2         | 2                               |               |  |
|                    | M091-03    |         |                                                  | 289                                        | 491    |        |        | 2         | 2                               |               |  |
|                    | M091-07    |         |                                                  | 289                                        | 491    |        |        | 3         | 3                               | Y             |  |
|                    | M135-03    |         |                                                  | 289                                        | 491    |        |        | 0         | 1                               |               |  |
|                    | M204-02    |         |                                                  | 289                                        | 491    |        |        | 1         | 2                               |               |  |
|                    | M204-03    |         |                                                  | 289                                        | 491    |        |        | 1         | 2                               |               |  |
|                    | M204-04    |         |                                                  | 289                                        | 491    |        |        | 1         | 2                               |               |  |
|                    | M204-05    |         |                                                  | 289                                        | 491    |        |        | 1         | 2                               |               |  |
|                    | M204-06    |         |                                                  | 289                                        | 491    |        |        | 1         | 2                               |               |  |
|                    | P002-05    |         |                                                  | 289                                        |        |        |        | 0         | 0                               |               |  |
|                    | P002-18    |         |                                                  | 289                                        |        |        |        | 0         | 1                               |               |  |
| L. coleohominis    | M050-05    | Y       | <i>Lactobacillus coleohominis</i> 101-4-CHN 98%  | 230                                        | 284    | 489    |        | 0         | 1                               |               |  |
|                    | M080-05    | Y       | <i>Lactobacillus coleohominis</i> 101-4-CHN 100% | 146                                        | 284    | 489    |        | 0         | 1                               |               |  |
|                    | M212-01    | Y       | <i>Lactobacillus coleohominis</i> 101-4-CHN 100% | 284                                        | 488    |        |        | 0         | 1                               |               |  |
|                    | M013-03    |         |                                                  | 284                                        | 488    |        |        | 1         | 1                               |               |  |
|                    | M013-06    |         |                                                  | 284                                        | 489    |        |        | 1         | 1                               |               |  |
|                    | M018-02    |         |                                                  | 284                                        | 488    |        |        | 0         | 1                               |               |  |
|                    | M018-05    |         |                                                  | 284                                        | 488    |        |        | 0         | 1                               |               |  |
|                    | M085-05    |         |                                                  | 284                                        | 489    |        |        | 1         | 1                               |               |  |
|                    | M085-08    |         |                                                  | 284                                        | 489    |        |        | 1         | 1                               |               |  |
|                    | M110-02    |         |                                                  | 284                                        | 489    |        |        | 0         | 1                               |               |  |
|                    | M110-05    |         |                                                  | 284                                        | 489    |        |        | 0         | 1                               |               |  |
|                    | M127-05    |         |                                                  | 284                                        | 489    |        |        | 0         | 1                               |               |  |
|                    | M177-01    |         |                                                  | 284                                        | 489    |        |        | 0         | 1                               |               |  |
|                    | M177-02    |         |                                                  | 284                                        | 489    |        |        | 0         | 1                               |               |  |

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| Group                             | Isolate | Seq'd | cpn60 UT Nearest Neighbour                   | ISR peaks |        |        |        | Phenotype |                                 |               |
|-----------------------------------|---------|-------|----------------------------------------------|-----------|--------|--------|--------|-----------|---------------------------------|---------------|
|                                   |         |       |                                              | Major     | Minor1 | Minor2 | Minor3 | Acid+     | H <sub>2</sub> O <sub>2</sub> + | Double-strong |
| <i>L. coleohominis</i><br>(cont.) | M177-03 |       |                                              | 284       | 489    |        |        | 0         | 1                               |               |
|                                   | M177-04 |       |                                              | 284       | 489    | 270    |        | 0         | 1                               |               |
|                                   | M177-05 |       |                                              | 284       | 488    |        |        | 0         | 1                               |               |
|                                   | M177-06 |       |                                              | 284       | 488    |        |        | 0         | 1                               |               |
|                                   | M178-03 |       |                                              | 284       | 488    |        |        | 0         | 1                               |               |
|                                   | M178-05 |       |                                              | 284       | 488    |        |        | 0         | 1                               |               |
|                                   | M178-08 |       |                                              | 284       | 488    |        |        | 0         | 1                               |               |
|                                   | M190-01 |       |                                              | 284       | 489    |        |        | 0         | 1                               |               |
|                                   | M190-02 |       |                                              | 284       | 488    |        |        | 0         | 1                               |               |
|                                   | M200-02 |       |                                              | 284       | 489    |        |        | 0         | 1                               |               |
|                                   | M200-03 |       |                                              | 284       | 290    | 488    |        | 0         | 1                               |               |
|                                   | M200-05 |       |                                              | 284       | 489    |        |        | 0         | 1                               |               |
|                                   | M200-07 |       |                                              | 284       | 488    |        |        | 0         | 1                               |               |
|                                   | M215-01 |       |                                              | 284       | 489    |        |        | 1         | 2                               |               |
|                                   | M215-07 |       |                                              | 284       | 488    |        |        | 2         | 1                               |               |
| M225-02                           |         |       | 284                                          | 489       |        |        | 0      | 1         |                                 |               |
| <i>P. pentosaceus</i>             | M221-02 | Y     | <i>Pediococcus pentosaceus</i> ATCC33316 99% | 315       | 505    |        |        | 3         | 2                               | Y             |
|                                   | M221-03 |       |                                              | 315       | 505    |        |        | 3         | 2                               | Y             |
|                                   | M221-05 |       |                                              | 315       | 505    | 263    |        | 3         | 2                               | Y             |
| <i>W. cibaria</i>                 | M166-01 | Y     | <i>Weissella cibaria</i> KACC11862 100%      | 337       | 356    | 534    | 460    | 2         | 2                               |               |
| <i>L. plantarum</i>               | M085-07 | Y     | <i>Lactobacillus plantarum</i> ATCC14431 99% | 291       | 521    | 272    |        | 3         | 1                               |               |
| <i>L. ruminis</i>                 | M067-01 | Y     | <i>Lactobacillus ruminis</i> ATCC2564 99%    | 300       | 400    | 522    | 500    | 3         | 3                               | Y             |
|                                   | M094-01 | Y     | <i>Lactobacillus ruminis</i> ATCC2564 99%    | 300       | 400    | 522    | 500    | 3         | 2                               | Y             |
|                                   | M109-03 | Y     | <i>Lactobacillus ruminis</i> ATCC2564 99%    | 299       | 401    | 500    | 522    | 2         | 2                               |               |
|                                   | M135-05 | Y     | <i>Lactobacillus ruminis</i> ATCC2564 99%    | 300       | 401    | 500    | 522    | 2         | 2                               |               |
|                                   | M094-02 |       |                                              | 299       | 400    | 522    | 500    | 3         | 2                               | Y             |
| M109-04                           |         |       | 300                                          | 401       | 500    | 522    | 2      | 2         |                                 |               |
| <i>L. animalis</i>                | M023-03 | Y     | <i>Lactobacillus animalis</i> ATCC35046 98%  | 288       | 386    |        |        | 3         | 3                               | Y             |
|                                   | M027-03 | Y     | <i>Lactobacillus animalis</i> ATCC35046 98%  | 289       | 386    | 471    | 484    | 3         | 3                               | Y             |
|                                   | M085-04 | Y     | <i>Lactobacillus animalis</i> ATCC35046 98%  | 288       | 386    | 484    | 471    | 2         | 1                               |               |
|                                   | M085-09 | Y     | <i>Lactobacillus animalis</i> ATCC35046 98%  | 288       | 386    | 471    | 484    | 3         | 3                               | Y             |
|                                   | M212-02 | Y     | <i>Lactobacillus animalis</i> ATCC35046 98%  | 289       | 386    | 484    | 471    | 3         | 2                               | Y             |
|                                   | M054-01 |       |                                              | 289       | 386    | 484    | 471    | 3         | 0                               |               |
|                                   | M054-05 |       |                                              | 289       | 386    | 484    | 471    | 3         | 0                               |               |
|                                   | M054-06 |       |                                              | 289       | 386    | 484    | 471    | 3         | 0                               |               |
|                                   | M057-01 |       |                                              | 289       | 386    | 484    | 471    | 2         | 1                               |               |
|                                   | M057-02 |       |                                              | 289       | 386    | 484    | 471    | 2         | 1                               |               |
|                                   | M059-01 |       |                                              | 288       | 386    | 484    | 471    | 2         | 1                               |               |
|                                   | M077-01 |       |                                              | 288       | 386    | 484    | 471    | 3         | 0                               |               |
|                                   | M079-01 |       |                                              | 288       | 386    | 471    | 484    | 3         | 0                               |               |

Table S1: Complete list and phylogenetic/phenotypic details of isolates

| Group                      | Isolate | Seq'd | cpn60 UT Nearest Neighbour                     | ISR peaks |        |        |        | Phenotype |                                 |               |
|----------------------------|---------|-------|------------------------------------------------|-----------|--------|--------|--------|-----------|---------------------------------|---------------|
|                            |         |       |                                                | Major     | Minor1 | Minor2 | Minor3 | Acid+     | H <sub>2</sub> O <sub>2</sub> + | Double-strong |
| <i>L. animalis</i> (cont.) | M079-02 |       |                                                | 288       |        |        |        | 3         | 0                               |               |
|                            | M079-05 |       |                                                | 288       | 386    | 471    | 484    | 3         | 0                               |               |
|                            | M083-01 |       |                                                | 288       | 386    | 484    | 471    | 3         | 0                               |               |
|                            | M083-03 |       |                                                | 288       | 386    | 484    | 471    | 3         | 0                               |               |
|                            | M085-02 |       |                                                | 288       | 386    | 484    | 471    | 3         | 0                               |               |
|                            | M094-05 |       |                                                | 288       | 386    | 484    | 471    | 3         | 0                               |               |
|                            | M212-07 |       |                                                | 289       | 386    | 484    | 471    | 3         | 2                               | Y             |
|                            | M225-03 |       |                                                | 288       | 386    | 484    | 471    | 2         | 2                               |               |
|                            | M225-05 |       |                                                | 288       | 386    | 484    | 471    | 3         | 0                               |               |
|                            | M225-08 |       |                                                | 288       | 386    | 471    | 484    | 3         | 0                               |               |
| M225-10                    |         |       | 288                                            | 386       | 471    | 484    | 3      | 0         |                                 |               |
| <i>L. salivarius</i>       | M013-02 | Y     | <i>Lactobacillus salivarius</i> ATCC11741 100% | 293       |        |        |        | 3         | 0                               |               |
|                            | M016-02 | Y     | <i>Lactobacillus salivarius</i> ATCC11741 100% | 293       |        |        |        | 3         | 3                               | Y             |
|                            | M037-01 | Y     | <i>Lactobacillus salivarius</i> ATCC11741 100% | 293       |        |        |        | 3         | 3                               | Y             |
|                            | M085-03 | Y     | <i>Lactobacillus salivarius</i> ATCC11741 97%  | 293       | 509    |        |        | 3         | 3                               | Y             |
|                            | M104-05 | Y     | <i>Lactobacillus salivarius</i> ATCC11741 100% | 293       | 509    |        |        | 3         | 3                               | Y             |
|                            | M136-01 | Y     | <i>Lactobacillus salivarius</i> ATCC11741 100% | 293       | 509    |        |        | 3         | 3                               | Y             |
|                            | M161-04 | Y     | <i>Lactobacillus salivarius</i> ATCC11741 100% | 293       | 509    |        |        | 3         | 3                               | Y             |
|                            | M212-03 | Y     | <i>Lactobacillus salivarius</i> ATCC11741 97%  | 293       | 509    |        |        | 2         | 1                               |               |
|                            | M212-08 | Y     | <i>Lactobacillus salivarius</i> ATCC11741 100% | 293       | 509    |        |        | 3         | 1                               |               |
|                            | M216-01 | Y     | <i>Lactobacillus salivarius</i> ATCC11741 97%  | 293       | 509    |        |        | 3         | 1                               |               |
|                            | M225-04 | Y     | <i>Lactobacillus salivarius</i> ATCC11741 100% | 293       | 509    |        |        | 3         | 3                               | Y             |
|                            | M054-03 |       |                                                | 293       | 509    |        |        | 2         | 1                               |               |
|                            | M054-04 |       |                                                | 293       | 509    | 279    |        | 2         | 1                               |               |
|                            | M054-07 |       |                                                | 293       | 509    |        |        | 1         | 1                               |               |
|                            | M059-02 |       |                                                | 293       | 509    | 279    |        | 2         | 2                               |               |
|                            | M068-01 |       |                                                | 293       | 509    |        |        | 3         | 0                               |               |
|                            | M068-02 |       |                                                | 293       | 509    |        |        | 3         | 0                               |               |
|                            | M077-02 |       |                                                | 293       | 509    |        |        | 1         | 1                               |               |
|                            | M077-03 |       |                                                | 293       | 509    |        |        | 1         | 1                               |               |
|                            | M104-01 |       |                                                | 293       | 509    |        |        | 3         | 3                               | Y             |
|                            | M104-06 |       |                                                | 293       | 509    | 278    |        | 3         | 3                               | Y             |
|                            | M136-02 |       |                                                | 293       | 509    |        |        | 3         | 3                               | Y             |
|                            | M212-04 |       |                                                | 293       | 509    |        |        | 1         | 1                               |               |
|                            | M216-02 |       |                                                | 293       | 509    |        |        | 3         | 1                               |               |
|                            | M216-03 |       |                                                | 293       | 509    |        |        | 3         | 1                               |               |
|                            | M216-04 |       |                                                | 293       | 509    |        |        | 3         | 0                               |               |
|                            | P025-01 |       |                                                | 293       | 510    |        |        | 3         | 0                               |               |
|                            | P025-02 |       |                                                | 293       | 509    | 276    |        | 3         | 1                               |               |
|                            | P025-03 |       |                                                | 293       | 510    |        |        | 3         | 1                               |               |

Table S1: Complete list and phylogenetic/phenotypic details of isolates

| Group                        | Isolate | Seq'd | cpn60 UT Nearest Neighbour                     | ISR peaks |        |        |        | Phenotype |                                 |               |
|------------------------------|---------|-------|------------------------------------------------|-----------|--------|--------|--------|-----------|---------------------------------|---------------|
|                              |         |       |                                                | Major     | Minor1 | Minor2 | Minor3 | Acid+     | H <sub>2</sub> O <sub>2</sub> + | Double-strong |
| <i>L. salivarius</i> (cont.) | P025-04 |       |                                                | 293       | 510    | 279    |        | 3         | 0                               |               |
| <i>L. delbrueckii</i>        | M091-01 | Y     | <i>Lactobacillus delbrueckii</i> ATCC12315 99% | 304       | 545    |        |        | 2         | 2                               |               |
|                              | M091-08 | Y     | <i>Lactobacillus delbrueckii</i> ATCC12315 99% | 304       | 545    |        |        | 3         | 3                               | Y             |
|                              | M091-05 |       |                                                | 304       | 545    |        |        | 3         | 3                               | Y             |
| <i>L. gasseri</i>            | M018-01 | Y     | <i>Lactobacillus gasseri</i> ATCC33323 100%    | 308       | 538    |        |        | 1         | 1                               |               |
|                              | M054-02 | Y     | <i>Lactobacillus gasseri</i> ATCC33323 99%     | 289       | 308    | 386    | 471    | 3         | 3                               | Y             |
|                              | M091-06 | Y     | <i>Lactobacillus gasseri</i> ATCC33323 97%     | 308       | 538    |        |        | 1         | 1                               |               |
|                              | M091-10 | Y     | <i>Lactobacillus gasseri</i> ATCC33323 97%     | 308       | 538    | 287    | 294    | 1         | 1                               |               |
|                              | M104-07 | Y     | <i>Lactobacillus gasseri</i> ATCC33323 97%     | 308       | 538    |        |        | 1         | 1                               |               |
|                              | M127-06 | Y     | <i>Lactobacillus gasseri</i> ATCC33323 100%    | 308       | 538    |        |        | 1         | 1                               |               |
|                              | M136-04 | Y     | <i>Lactobacillus gasseri</i> ATCC33323 97%     | 308       | 538    |        |        | 1         | 1                               |               |
|                              | M170-06 | Y     | <i>Lactobacillus gasseri</i> ATCC33323 97%     | 308       | 538    |        |        | 1         | 1                               |               |
|                              | P005-02 | Y     | <i>Lactobacillus gasseri</i> ATCC33323 100%    | 308       | 538    |        |        | 1         | 1                               |               |
|                              | P011-01 | Y     | <i>Lactobacillus gasseri</i> ATCC33323 100%    | 306       | 538    |        |        | 1         | 1                               |               |
|                              | M016-01 |       |                                                | 308       | 538    |        |        | 2         | 1                               |               |
|                              | M016-05 |       |                                                | 308       | 538    |        |        | 2         | 1                               |               |
|                              | M085-06 |       |                                                | 308       | 538    |        |        | 1         | 1                               |               |
|                              | M091-04 |       |                                                | 308       | 538    |        |        | 1         | 1                               |               |
|                              | M104-03 |       |                                                | 308       | 538    |        |        | 1         | 1                               |               |
|                              | M104-04 |       |                                                | 308       | 538    | 294    |        | 1         | 1                               |               |
|                              | M110-01 |       |                                                | 308       | 538    |        |        | 0         | 1                               |               |
|                              | M110-04 |       |                                                | 308       | 538    |        |        | 0         | 1                               |               |
|                              | M127-02 |       |                                                | 308       | 538    |        |        | 1         | 1                               |               |
|                              | M127-03 |       |                                                | 308       | 538    |        |        | 1         | 1                               |               |
|                              | M135-04 |       |                                                | 308       | 539    |        |        | 1         | 0                               |               |
|                              | M155-03 |       |                                                | 308       | 538    |        |        | 1         | 1                               |               |
|                              | M155-04 |       |                                                | 308       | 289    | 538    | 490    | 1         | 1                               |               |
|                              | M155-06 |       |                                                | 308       | 538    |        |        | 1         | 1                               |               |
|                              | M161-02 |       |                                                | 308       | 539    |        |        | 1         | 1                               |               |
|                              | M166-02 |       |                                                | 308       | 538    |        |        | 1         | 1                               |               |
|                              | M170-01 |       |                                                | 308       | 538    |        |        | 1         | 1                               |               |
|                              | M170-10 |       |                                                | 308       | 538    |        |        | 1         | 1                               |               |
|                              | M215-02 |       |                                                | 308       | 538    |        |        | 1         | 2                               |               |
|                              | P005-03 |       |                                                | 308       | 538    |        |        | 1         | 1                               |               |
|                              | P005-04 |       |                                                | 308       | 538    |        |        | 1         | 1                               |               |
|                              | P005-05 |       |                                                | 308       | 538    |        |        | 1         | 1                               |               |
|                              | P005-06 |       |                                                | 308       | 538    |        |        | 1         | 1                               |               |
| P005-07                      |         |       | 308                                            | 538       |        |        | 1      | 1         |                                 |               |
| P005-08                      |         |       | 308                                            | 538       |        |        | 1      | 1         |                                 |               |
| P005-09                      |         |       | 308                                            | 538       |        |        | 1      | 1         |                                 |               |

Table S1: Complete list and phylogenetic/phenotypic details of isolates

| Group                     | Isolate | Seq'd | cpn60 UT Nearest Neighbour                   | ISR peaks |        |        |        | Phenotype |                                 |               |
|---------------------------|---------|-------|----------------------------------------------|-----------|--------|--------|--------|-----------|---------------------------------|---------------|
|                           |         |       |                                              | Major     | Minor1 | Minor2 | Minor3 | Acid+     | H <sub>2</sub> O <sub>2</sub> + | Double-strong |
| <i>L. gasseri</i> (cont.) | P005-10 |       |                                              | 308       | 538    |        |        | 1         | 1                               |               |
|                           | P005-11 |       |                                              | 308       | 538    |        |        | 1         | 1                               |               |
|                           | P005-12 |       |                                              | 308       | 538    |        |        | 1         | 1                               |               |
|                           | P009-03 |       |                                              | 308       | 539    |        |        | 1         | 1                               |               |
|                           | P011-02 |       |                                              | 306       | 539    |        |        | 1         | 1                               |               |
|                           | P011-03 |       |                                              | 306       | 539    | 292    |        | 1         | 1                               |               |
|                           | P011-09 |       |                                              | 306       | 539    |        |        | 1         | 1                               |               |
|                           | P011-10 |       |                                              | 306       | 539    |        |        | 1         | 1                               |               |
|                           | P021-01 |       |                                              | 308       |        |        |        | 1         | 0                               |               |
|                           | P021-03 |       |                                              | 308       |        |        |        | 1         | 0                               |               |
|                           | P021-04 |       |                                              | 308       |        |        |        | 1         | 0                               |               |
|                           | P021-05 |       |                                              | 308       |        |        |        | 1         | 0                               |               |
|                           | P021-06 |       |                                              | 308       |        |        |        | 1         | 0                               |               |
|                           | P021-07 |       |                                              | 308       | 294    |        |        | 1         | 0                               |               |
|                           | P021-08 |       |                                              | 308       |        |        |        | 1         | 0                               |               |
|                           | P021-09 |       |                                              | 308       |        |        |        | 1         | 0                               |               |
|                           | P021-12 |       |                                              | 308       |        |        |        | 1         | 0                               |               |
|                           | P021-13 |       |                                              | 308       |        |        |        | 1         | 0                               |               |
|                           | P021-14 |       |                                              | 308       | 294    |        |        | 1         | 0                               |               |
|                           | P021-15 |       |                                              | 308       |        |        |        | 1         | 0                               |               |
| P022-04                   |         |       | 306                                          | 539       |        |        | 1      | 1         |                                 |               |
| P022-05                   |         |       | 306                                          | 539       |        |        | 1      | 1         |                                 |               |
| P022-06                   |         |       | 306                                          | 539       |        |        | 1      | 1         |                                 |               |
| <i>L. jensenii</i>        | M124-01 | Y     | <i>Lactobacillus jensenii</i> ATCC25258 100% | 288       | 525    |        |        | 0         | 1                               |               |
|                           | M124-07 | Y     | <i>Lactobacillus jensenii</i> ATCC25258 100% | 288       | 525    | 268    | 273    | 0         | 1                               |               |
|                           | M178-04 | Y     | <i>Lactobacillus jensenii</i> ATCC25258 95%  | 288       | 112    | 526    |        | 1         | 0                               |               |
|                           | M207-01 | Y     | <i>Lactobacillus jensenii</i> ATCC25258 100% | 288       | 525    |        |        | 0         | 1                               |               |
|                           | P013-08 | Y     | <i>Lactobacillus jensenii</i> ATCC25258 95%  | 288       | 112    | 526    |        | 0         | 1                               |               |
|                           | P014-07 | Y     | <i>Lactobacillus jensenii</i> ATCC25258 95%  | 288       | 526    | 268    |        | 1         | 2                               |               |
|                           | P014-09 | Y     | <i>Lactobacillus jensenii</i> ATCC25258 95%  | 526       | 288    | 268    | 274    | 1         | 2                               |               |
|                           | M038-01 |       |                                              | 288       | 526    |        |        | 1         | 1                               |               |
|                           | M038-04 |       |                                              | 288       | 526    |        |        | 1         | 1                               |               |
|                           | M038-06 |       |                                              | 288       | 526    | 273    |        | 2         | 1                               |               |
|                           | M050-02 |       |                                              | 288       | 112    | 526    |        | 0         | 0                               |               |
|                           | M050-03 |       |                                              | 112       | 274    | 288    | 526    | 0         | 0                               |               |
|                           | M050-06 |       |                                              | 288       | 526    | 112    |        | 1         | 1                               |               |
|                           | M067-03 |       |                                              | 288       | 526    |        |        | 1         | 2                               |               |
|                           | M080-01 |       |                                              | 288       | 525    |        |        | 0         | 0                               |               |
|                           | M080-02 |       |                                              | 288       | 525    |        |        | 0         | 1                               |               |
|                           | M080-06 |       |                                              | 288       | 525    |        |        | 0         | 1                               |               |



Table S1: Complete list and phylogenetic/phenotypic details of isolates

| Group                      | Isolate | Seq'd | cpn60 UT Nearest Neighbour | ISR peaks |        |        |        | Phenotype |                                 |               |
|----------------------------|---------|-------|----------------------------|-----------|--------|--------|--------|-----------|---------------------------------|---------------|
|                            |         |       |                            | Major     | Minor1 | Minor2 | Minor3 | Acid+     | H <sub>2</sub> O <sub>2</sub> + | Double-strong |
| <i>L. jensenii</i> (cont.) | M101-01 |       |                            | 288       | 525    |        |        | 0         | 0                               |               |
|                            | M101-04 |       |                            | 288       | 525    |        |        | 0         | 0                               |               |
|                            | M101-06 |       |                            | 288       | 525    |        |        | 0         | 0                               |               |
|                            | M101-07 |       |                            | 288       | 525    | 273    |        | 0         | 0                               |               |
|                            | M122-01 |       |                            | 288       |        |        |        | 0         | 1                               |               |
|                            | M122-02 |       |                            | 288       |        |        |        | 0         | 1                               |               |
|                            | M122-03 |       |                            | 288       | 112    |        |        | 0         | 1                               |               |
|                            | M122-05 |       |                            | 288       | 112    | 526    |        | 0         | 1                               |               |
|                            | M122-06 |       |                            | 288       | 112    | 526    |        | 0         | 1                               |               |
|                            | M124-04 |       |                            | 288       | 525    |        |        | 0         | 1                               |               |
|                            | M124-05 |       |                            | 288       | 525    |        |        | 0         | 1                               |               |
|                            | M178-01 |       |                            | 288       | 112    | 526    |        | 1         | 0                               |               |
|                            | M178-06 |       |                            | 288       |        |        |        | 1         | 1                               |               |
|                            | M183-01 |       |                            | 288       | 525    |        |        | 0         | 0                               |               |
|                            | M183-06 |       |                            | 288       | 525    |        |        | 1         | 0                               |               |
|                            | M183-07 |       |                            | 288       | 525    |        |        | 1         | 0                               |               |
|                            | M183-08 |       |                            | 288       | 525    |        |        | 1         | 0                               |               |
|                            | M207-03 |       |                            | 288       | 525    |        |        | 0         | 1                               |               |
|                            | P009-02 |       |                            | 288       | 525    | 274    |        | 0         | 1                               |               |
|                            | P013-03 |       |                            | 288       | 112    | 526    |        | 0         | 1                               |               |
|                            | P013-04 |       |                            | 288       | 112    | 526    |        | 0         | 1                               |               |
|                            | P013-11 |       |                            | 288       | 112    | 526    |        | 0         | 1                               |               |
|                            | P014-01 |       |                            | 288       | 526    | 269    |        | 1         | 2                               |               |
|                            | P014-02 |       |                            | 288       | 526    | 269    |        | 1         | 2                               |               |
|                            | P014-03 |       |                            | 288       | 526    |        |        | 1         | 2                               |               |
|                            | P014-04 |       |                            | 288       | 526    | 269    |        | 1         | 2                               |               |
|                            | P014-05 |       |                            | 288       | 526    | 269    |        | 1         | 2                               |               |
|                            | P014-06 |       |                            | 288       | 526    | 269    |        | 1         | 2                               |               |
|                            | P014-08 |       |                            | 288       | 526    | 268    |        | 1         | 2                               |               |
|                            | P014-10 |       |                            | 288       | 526    |        |        | 1         | 2                               |               |
|                            | P014-11 |       |                            | 288       | 526    |        |        | 1         | 2                               |               |
|                            | P014-12 |       |                            | 288       | 526    |        |        | 1         | 2                               |               |
|                            | P016-01 |       |                            | 288       | 525    |        |        | 1         | 1                               |               |
|                            | P016-02 |       |                            | 288       | 525    |        |        | 1         | 1                               |               |
|                            | P016-03 |       |                            | 288       | 525    |        |        | 1         | 1                               |               |
|                            | P016-04 |       |                            | 288       | 526    |        |        | 1         | 1                               |               |
|                            | P016-05 |       |                            | 288       | 525    |        |        | 1         | 1                               |               |
|                            | P016-07 |       |                            | 288       | 526    |        |        | 1         | 1                               |               |
|                            | P016-08 |       |                            | 288       | 526    | 273    |        | 1         | 1                               |               |
|                            | P016-09 |       |                            | 288       | 525    | 274    |        | 1         | 1                               |               |

Table S1: Complete list and phylogenetic/phenotypic details of isolates

| Group                      | Isolate | Seq'd | cpn60 UT Nearest Neighbour                   | ISR peaks |        |        |        | Phenotype |                                 |               |
|----------------------------|---------|-------|----------------------------------------------|-----------|--------|--------|--------|-----------|---------------------------------|---------------|
|                            |         |       |                                              | Major     | Minor1 | Minor2 | Minor3 | Acid+     | H <sub>2</sub> O <sub>2</sub> + | Double-strong |
| <i>L. jensenii</i> (cont.) | P016-10 |       |                                              | 288       | 525    |        |        | 1         | 1                               |               |
|                            | P016-11 |       |                                              | 288       | 525    |        |        | 1         | 1                               |               |
|                            | P016-12 |       |                                              | 288       |        |        |        | 1         | 1                               |               |
|                            | P025-06 |       |                                              | 288       | 526    |        |        | 1         | 1                               |               |
|                            | P025-10 |       |                                              | 288       | 526    |        |        | 0         | 1                               |               |
| <i>L. crispatus</i>        | M001-01 | Y     | <i>Lactobacillus crispatus</i> CUTC3695 100% | 293       | 546    |        |        | 0         | 1                               |               |
|                            | M024-02 | Y     | <i>Lactobacillus crispatus</i> CUTC3695 100% | 293       |        |        |        | 0         | 0                               |               |
|                            | M082-01 | Y     | <i>Lactobacillus crispatus</i> CUTC3695 100% | 162       | 294    |        |        | 1         | 1                               |               |
|                            | M082-04 | Y     | <i>Lactobacillus crispatus</i> CUTC3695 100% | 294       |        |        |        | 1         | 1                               |               |
|                            | P001-02 | Y     | <i>Lactobacillus crispatus</i> CUTC3695 100% | 293       | 162    |        |        | 0         | 0                               |               |
|                            | P001-09 | Y     | <i>Lactobacillus crispatus</i> CUTC3695 100% | 293       | 546    |        |        | 0         | 0                               |               |
|                            | P001-12 | Y     | <i>Lactobacillus crispatus</i> CUTC3695 100% | 293       | 162    |        |        | 0         | 0                               |               |
|                            | P001-15 | Y     | <i>Lactobacillus crispatus</i> CUTC3695 100% | 293       |        |        |        | 0         | 0                               |               |
|                            | P002-07 | Y     | <i>Lactobacillus crispatus</i> CUTC3695 100% | 293       | 99     | 124    |        | 0         | 0                               |               |
|                            | P002-10 | Y     | <i>Lactobacillus crispatus</i> CUTC3695 100% | 293       | 162    | 309    |        | 0         | 0                               |               |
|                            | P002-16 | Y     | <i>Lactobacillus crispatus</i> CUTC3695 100% | 99        |        |        |        | 0         | 0                               |               |
|                            | M001-02 |       |                                              | 293       | 546    |        |        | 0         | 1                               |               |
|                            | M003-01 |       |                                              | 293       | 547    |        |        | 1         | 1                               |               |
|                            | M003-02 |       |                                              | 293       | 547    |        |        | 1         | 1                               |               |
|                            | M003-03 |       |                                              | 293       |        |        |        | 1         | 1                               |               |
|                            | M006-01 |       |                                              | 293       | 162    | 547    | 279    | 1         | 1                               |               |
|                            | M006-02 |       |                                              | 293       | 162    | 547    |        | 1         | 1                               |               |
|                            | M006-03 |       |                                              | 293       | 162    | 547    |        | 1         | 1                               |               |
|                            | M066-01 |       |                                              | 293       | 547    |        |        | 0         | 1                               |               |
|                            | M066-02 |       |                                              | 293       | 547    |        |        | 0         | 1                               |               |
|                            | M066-03 |       |                                              | 293       | 547    |        |        | 0         | 0                               |               |
|                            | M066-04 |       |                                              | 293       | 547    | 162    |        | 0         | 0                               |               |
|                            | M076-01 |       |                                              | 294       | 547    |        |        | 1         | 2                               |               |
|                            | M076-02 |       |                                              | 294       | 547    |        |        | 1         | 2                               |               |
|                            | M076-04 |       |                                              | 294       | 547    |        |        | 1         | 2                               |               |
|                            | M076-05 |       |                                              | 294       | 547    |        |        | 1         | 2                               |               |
|                            | M081-01 |       |                                              | 293       | 546    |        |        | 0         | 1                               |               |
|                            | M082-03 |       |                                              | 293       | 547    |        |        | 1         | 1                               |               |
|                            | M082-05 |       |                                              | 294       |        |        |        | 1         | 1                               |               |
|                            | M082-06 |       |                                              | 294       |        |        |        | 0         | 1                               |               |
|                            | M085-01 |       |                                              | 293       | 546    | 127    |        | 1         | 2                               |               |
|                            | M103-02 |       |                                              | 294       | 547    |        |        | 0         | 1                               |               |
|                            | M126-01 |       |                                              | 294       | 547    |        |        | 0         | 1                               |               |
| M126-02                    |         |       | 294                                          | 547       |        |        | 0      | 1         |                                 |               |
| M127-01                    |         |       | 293                                          | 546       |        |        | 1      | 1         |                                 |               |

Table S1: Complete list and phylogenetic/phenotypic details of isolates

| Group                       | Isolate | Seq'd | cpn60 UT Nearest Neighbour | ISR peaks |        |        |        | Phenotype |                                 |               |
|-----------------------------|---------|-------|----------------------------|-----------|--------|--------|--------|-----------|---------------------------------|---------------|
|                             |         |       |                            | Major     | Minor1 | Minor2 | Minor3 | Acid+     | H <sub>2</sub> O <sub>2</sub> + | Double-strong |
| <i>L. crispatus</i> (cont.) | M131-04 |       |                            | 294       | 547    | 156    | 309    | 1         | 0                               |               |
|                             | M132-01 |       |                            | 294       | 547    |        |        | 0         | 1                               |               |
|                             | M132-02 |       |                            | 294       | 547    | 309    | 156    | 0         | 0                               |               |
|                             | M132-03 |       |                            | 294       | 547    |        |        | 1         | 0                               |               |
|                             | M145-02 |       |                            | 293       | 546    |        |        | 0         | 0                               |               |
|                             | M162-01 |       |                            | 293       | 546    |        |        | 1         | 1                               |               |
|                             | M162-03 |       |                            | 293       | 162    |        |        | 1         | 1                               |               |
|                             | M183-02 |       |                            | 293       | 546    |        |        | 0         | 0                               |               |
|                             | M183-03 |       |                            | 293       | 546    |        |        | 0         | 0                               |               |
|                             | M183-04 |       |                            | 293       | 546    |        |        | 0         | 0                               |               |
|                             | M183-05 |       |                            | 293       | 546    |        |        | 0         | 0                               |               |
|                             | M199-01 |       |                            | 293       | 546    |        |        | 0         | 0                               |               |
|                             | M204-01 |       |                            | 293       | 546    |        |        | 1         | 1                               |               |
|                             | M205-01 |       |                            | 293       | 546    |        |        | 0         | 0                               |               |
|                             | M205-03 |       |                            | 293       | 546    |        |        | 0         | 0                               |               |
|                             | M205-05 |       |                            | 293       | 546    |        |        | 0         | 0                               |               |
|                             | M205-06 |       |                            | 293       | 546    |        |        | 0         | 0                               |               |
|                             | M220-01 |       |                            | 293       | 546    |        |        | 0         | 0                               |               |
|                             | M220-02 |       |                            | 293       | 546    |        |        | 0         | 0                               |               |
|                             | P001-03 |       |                            | 293       | 162    | 309    | 99     | 0         | 0                               |               |
|                             | P001-04 |       |                            | 293       | 162    | 154    |        | 0         | 0                               |               |
|                             | P001-05 |       |                            | 293       |        |        |        | 0         | 0                               |               |
|                             | P001-07 |       |                            | 293       |        |        |        | 0         | 0                               |               |
|                             | P001-08 |       |                            | 293       |        |        |        | 0         | 0                               |               |
|                             | P001-11 |       |                            | 293       | 162    | 309    | 99     | 0         | 0                               |               |
|                             | P001-13 |       |                            | 293       | 162    | 99     | 309    | 0         | 1                               |               |
|                             | P001-14 |       |                            | 293       | 162    |        |        | 0         | 1                               |               |
|                             | P001-16 |       |                            | 293       |        |        |        | 0         | 0                               |               |
|                             | P002-01 |       |                            | 293       | 162    |        |        | 0         | 0                               |               |
|                             | P002-02 |       |                            | 293       | 162    | 99     | 309    | 0         | 0                               |               |
|                             | P002-03 |       |                            | 293       | 162    | 309    |        | 0         | 0                               |               |
|                             | P002-04 |       |                            | 293       | 162    | 309    | 99     | 0         | 0                               |               |
|                             | P002-06 |       |                            | 293       | 99     |        |        | 0         | 0                               |               |
|                             | P002-08 |       |                            | 293       | 162    |        |        | 0         | 0                               |               |
|                             | P002-09 |       |                            | 293       |        |        |        | 0         | 0                               |               |
|                             | P002-11 |       |                            | 293       |        |        |        | 0         | 0                               |               |
|                             | P002-12 |       |                            | 293       | 546    |        |        | 0         | 0                               |               |
|                             | P002-14 |       |                            | 293       | 162    |        |        | 0         | 0                               |               |
|                             | P002-15 |       |                            | 293       | 162    | 309    | 99     | 0         | 0                               |               |
|                             | P002-17 |       |                            | 293       |        |        |        | 0         | 0                               |               |

Table S1: Complete list and phylogenetic/phenotypic details of isolates

| Group                       | Isolate | Seq'd | cpn60 UT Nearest Neighbour                 | ISR peaks |        |        |        | Phenotype |                                 |               |
|-----------------------------|---------|-------|--------------------------------------------|-----------|--------|--------|--------|-----------|---------------------------------|---------------|
|                             |         |       |                                            | Major     | Minor1 | Minor2 | Minor3 | Acid+     | H <sub>2</sub> O <sub>2</sub> + | Double-strong |
| <i>L. crispatus</i> (cont.) | P011-04 |       |                                            | 293       | 546    |        |        | 1         | 2                               |               |
|                             | P011-05 |       |                                            | 293       | 546    |        |        | 1         | 2                               |               |
|                             | P011-06 |       |                                            | 293       | 546    | 162    |        | 1         | 2                               |               |
|                             | P011-11 |       |                                            | 293       | 546    | 162    | 279    | 1         | 2                               |               |
|                             | P011-12 |       |                                            | 293       | 546    | 273    | 162    | 1         | 2                               |               |
|                             | P013-01 |       |                                            | 293       | 162    |        |        | 1         | 2                               |               |
|                             | P013-02 |       |                                            | 293       |        |        |        | 1         | 2                               |               |
|                             | P013-05 |       |                                            | 293       | 546    |        |        | 1         | 2                               |               |
|                             | P013-06 |       |                                            | 293       | 162    |        |        | 1         | 2                               |               |
|                             | P013-07 |       |                                            | 293       |        |        |        | 1         | 2                               |               |
|                             | P013-09 |       |                                            | 293       | 546    |        |        | 1         | 2                               |               |
|                             | P013-10 |       |                                            | 293       |        |        |        | 1         | 2                               |               |
|                             | P013-12 |       |                                            | 293       | 546    |        |        | 1         | 2                               |               |
|                             | P021-02 |       |                                            | 293       | 546    |        |        | 1         | 1                               |               |
|                             | P021-10 |       |                                            | 293       | 546    |        |        | 1         | 1                               |               |
|                             | P021-11 |       |                                            | 293       | 546    |        |        | 1         | 1                               |               |
|                             | P021-16 |       |                                            | 293       | 546    |        |        | 1         | 1                               |               |
|                             | P021-17 |       |                                            | 293       | 546    |        |        | 1         | 1                               |               |
|                             | P021-18 |       |                                            | 293       | 546    |        |        | 1         | 1                               |               |
|                             | P022-02 |       |                                            | 293       | 546    |        |        | 0         | 1                               |               |
|                             | P030-07 |       |                                            | 293       | 194    | 162    | 546    | 1         | 1                               |               |
|                             | P031-01 |       |                                            | 293       |        |        |        | 0         | 1                               |               |
|                             | P031-02 |       |                                            | 293       | 547    |        |        | 0         | 1                               |               |
|                             | P031-03 |       |                                            | 293       | 162    | 547    | 279    | 0         | 1                               |               |
|                             | P031-04 |       |                                            | 293       | 547    | 162    |        | 0         | 1                               |               |
|                             | P031-05 |       |                                            | 293       | 162    | 547    |        | 0         | 1                               |               |
|                             | P031-06 |       |                                            | 293       | 547    | 162    |        | 0         | 1                               |               |
|                             | P031-07 |       |                                            | 293       | 547    |        |        | 0         | 1                               |               |
|                             | P031-08 |       |                                            | 293       | 547    |        |        | 0         | 1                               |               |
|                             | P031-09 |       |                                            | 293       | 547    |        |        | 0         | 1                               |               |
|                             | P031-10 |       |                                            | 293       | 547    |        |        | 0         | 1                               |               |
|                             | P031-11 |       |                                            | 293       | 162    | 547    | 279    | 0         | 1                               |               |
| P031-12                     |         |       | 293                                        | 547       | 162    | 279    | 0      | 1         |                                 |               |
| <i>En. faecalis</i>         | M161-07 | Y     | <i>Enterococcus faecalis</i> ATCC49332 99% | 313       | 414    |        |        | 1         | 0                               |               |
|                             | P030-11 | Y     | <i>Enterococcus faecalis</i> ATCC49332 99% | 313       | 415    |        |        | 2         | 0                               |               |
|                             | M006-06 |       |                                            | 313       | 415    |        |        | 2         | 2                               |               |
|                             | M013-05 |       |                                            | 313       | 415    |        |        | 2         | 1                               |               |
|                             | M037-05 |       |                                            | 415       | 189    | 171    |        | 2         | 1                               |               |
|                             | M081-03 |       |                                            | 313       | 415    | 293    |        | 2         | 1                               |               |
|                             | M145-05 |       |                                            | 313       | 415    |        |        | 2         | 1                               |               |

Table S1: Complete list and phylogenetic/phenotypic details of isolates

| Group                       | Isolate | Seq'd | cpn60 UT Nearest Neighbour                    | ISR peaks |        |        |        | Phenotype |                                 |               |
|-----------------------------|---------|-------|-----------------------------------------------|-----------|--------|--------|--------|-----------|---------------------------------|---------------|
|                             |         |       |                                               | Major     | Minor1 | Minor2 | Minor3 | Acid+     | H <sub>2</sub> O <sub>2</sub> + | Double-strong |
| <i>En. faecalis</i> (cont.) | M163-03 |       |                                               | 313       | 415    |        |        | 1         | 0                               |               |
| <i>En. raffinosus</i>       | M083-02 | Y     | <i>Enterococcus raffinosus</i> ATCC49427 100% | 311       | 413    |        |        | 2         | 3                               | Y             |
|                             | M083-04 | Y     | <i>Enterococcus raffinosus</i> ATCC49427 100% | 311       | 413    |        |        | 2         | 3                               | Y             |
| <i>S. bovis</i>             | M023-01 | Y     | <i>Streptococcus bovis</i> ATCC9809 99%       | 361       |        |        |        | 3         | 2                               | Y             |
|                             | M023-06 | Y     | <i>Streptococcus bovis</i> ATCC9809 99%       | 361       |        |        |        | 2         | 2                               |               |
|                             | M029-04 | Y     | <i>Streptococcus bovis</i> ATCC9809 99%       | 361       | 148    | 305    |        | 2         | 1                               |               |
|                             | M023-02 |       |                                               | 361       |        |        |        | 3         | 2                               | Y             |
|                             | M023-05 |       |                                               | 361       |        |        |        | 3         | 2                               | Y             |
|                             | M025-01 |       |                                               | 361       |        |        |        | 2         | 2                               |               |
|                             | M025-02 |       |                                               | 361       |        |        |        | 2         | 2                               |               |
|                             | M025-05 |       |                                               | 361       |        |        |        | 2         | 2                               |               |
|                             | M027-01 |       |                                               | 361       |        |        |        | 2         | 2                               |               |
|                             | M027-04 |       |                                               | 361       |        |        |        | 1         | 2                               |               |
|                             | M029-01 |       |                                               | 361       |        |        |        | 2         | 1                               |               |
|                             | M029-02 |       |                                               | 361       |        |        |        | 2         | 1                               |               |
|                             | M029-03 |       |                                               | 361       |        |        |        | 2         | 1                               |               |
|                             | M029-05 |       |                                               | 361       |        |        |        | 2         | 1                               |               |
|                             | M079-03 |       |                                               | 361       |        |        |        | 2         | 1                               |               |
|                             | M079-04 |       |                                               | 361       |        |        |        | 2         | 1                               |               |
|                             | M081-02 |       |                                               | 361       |        |        |        | 3         | 2                               | Y             |
| <i>S. lutetiensis</i>       | M086-01 | Y     | <i>Streptococcus lutetiensis</i> BAA-103 100% | 360       |        |        |        | 3         | 1                               |               |
|                             | M094-09 | Y     | <i>Streptococcus lutetiensis</i> BAA-103 100% | 360       |        |        |        | 1         | 0                               |               |
|                             | M103-01 | Y     | <i>Streptococcus lutetiensis</i> BAA-103 100% | 360       |        |        |        | 3         | 3                               | Y             |
|                             | P005-01 | Y     | <i>Streptococcus lutetiensis</i> BAA-103 100% | 360       |        |        |        | 2         | 0                               |               |
|                             | M067-06 |       |                                               | 360       | 383    |        |        | 1         | 2                               |               |
|                             | M079-06 |       |                                               | 360       |        |        |        | 1         | 1                               |               |
|                             | M086-02 |       |                                               | 360       |        |        |        | 3         | 0                               |               |
|                             | M086-03 |       |                                               | 360       |        |        |        | 3         | 0                               |               |
|                             | M086-04 |       |                                               | 360       |        |        |        | 3         | 0                               |               |
|                             | M094-04 |       |                                               | 360       |        |        |        | 3         | 1                               |               |
|                             | M103-08 |       |                                               | 360       | 342    |        |        | 1         | 0                               |               |
|                             | M156-03 |       |                                               | 360       |        |        |        | 2         | 2                               |               |
|                             | M156-04 |       |                                               | 360       |        |        |        | 1         | 2                               |               |
|                             | M156-05 |       |                                               | 360       |        |        |        | 1         | 2                               |               |
|                             | M157-03 |       |                                               | 360       |        |        |        | 2         | 0                               |               |
|                             | P030-01 |       |                                               | 360       |        |        |        | 2         | 0                               |               |
|                             | P030-02 |       |                                               | 360       |        |        |        | 2         | 0                               |               |
|                             | P030-16 |       |                                               | 360       |        |        |        | 1         | 0                               |               |
|                             | P030-17 |       |                                               | 360       |        |        |        | 1         | 0                               |               |
| P030-18                     |         |       | 360                                           |           |        |        | 1      | 0         |                                 |               |

Table S1: Complete list and phylogenetic/phenotypic details of isolates

| Group         | Isolate | Seq'd | cpn60 UT Nearest Neighbour                     | ISR peaks |        |        |        | Phenotype |                                 |               |
|---------------|---------|-------|------------------------------------------------|-----------|--------|--------|--------|-----------|---------------------------------|---------------|
|               |         |       |                                                | Major     | Minor1 | Minor2 | Minor3 | Acid+     | H <sub>2</sub> O <sub>2</sub> + | Double-strong |
| S. agalactiae | M016-06 | Y     | <i>Streptococcus agalactiae</i> ATCC12386 100% | 368       |        |        |        | 2         | 1                               |               |
|               | M038-05 | Y     | <i>Streptococcus agalactiae</i> ATCC12386 100% | 368       |        |        |        | 2         | 0                               |               |
|               | M059-03 | Y     | <i>Streptococcus agalactiae</i> ATCC12386 100% | 368       |        |        |        | 2         | 2                               |               |
|               | M059-05 | Y     | <i>Streptococcus agalactiae</i> ATCC12386 100% | 367       |        |        |        | 2         | 2                               |               |
|               | M027-06 |       |                                                | 368       |        |        |        | 1         | 2                               |               |
|               | M059-06 |       |                                                | 368       |        |        |        | 2         | 2                               |               |
|               | M067-05 |       |                                                | 368       |        |        |        | 2         | 2                               |               |
|               | M068-03 |       |                                                | 368       |        |        |        | 2         | 2                               |               |
|               | M068-05 |       |                                                | 367       |        |        |        | 2         | 2                               |               |
|               | M097-01 |       |                                                | 368       |        |        |        | 2         | 2                               |               |
|               | M097-02 |       |                                                | 367       |        |        |        | 2         | 2                               |               |
|               | M097-03 |       |                                                | 368       |        |        |        | 2         | 2                               |               |
|               | M097-04 |       |                                                | 368       |        |        |        | 2         | 2                               |               |
|               | M099-03 |       |                                                | 368       |        |        |        | 2         | 2                               |               |
|               | M099-04 |       |                                                | 368       |        |        |        | 2         | 2                               |               |
|               | M099-05 |       |                                                | 367       |        |        |        | 2         | 2                               |               |
|               | M139-04 |       |                                                | 367       |        |        |        | 2         | 2                               |               |
|               | M139-08 |       |                                                | 368       |        |        |        | 2         | 2                               |               |
|               | M148-03 |       |                                                | 367       |        |        |        | 2         | 2                               |               |
|               | M148-04 |       |                                                | 368       |        |        |        | 2         | 2                               |               |
|               | M148-05 |       |                                                | 368       |        |        |        | 2         | 2                               |               |
|               | M156-06 |       |                                                | 368       |        |        |        | 1         | 1                               |               |
|               | M167-03 |       |                                                | 367       |        |        |        | 2         | 0                               |               |
|               | M167-04 |       |                                                | 368       |        |        |        | 2         | 0                               |               |
|               | M175-02 |       |                                                | 368       |        |        |        | 2         | 2                               |               |
|               | M197-02 |       |                                                | 368       |        |        |        | 2         | 2                               |               |
| M215-03       |         |       | 367                                            |           |        |        | 2      | 2         |                                 |               |
| M215-04       |         |       | 368                                            | 354       |        |        | 2      | 1         |                                 |               |
| M220-03       |         |       | 368                                            |           |        |        | 2      | 2         |                                 |               |
| M220-05       |         |       | 368                                            |           |        |        | 2      | 1         |                                 |               |
| M220-06       |         |       | 368                                            |           |        |        | 2      | 2         |                                 |               |
| S. sp. N80    | M068-04 | Y     | <i>Streptococcus mitis</i> ATCC49456 94%       | 331       |        |        |        | 1         | 2                               |               |
|               | M081-05 | Y     | <i>Streptococcus mitis</i> ATCC49456 94%       | 331       |        |        |        | 1         | 1                               |               |
|               | M022-04 |       |                                                | 331       |        |        |        | 1         | 2                               |               |
|               | M023-04 |       |                                                | 331       |        |        |        | 1         | 2                               |               |
|               | M067-04 |       |                                                | 331       |        |        |        | 1         | 2                               |               |
|               | M081-04 |       |                                                | 331       |        |        |        | 1         | 1                               |               |
|               | M081-06 |       |                                                | 331       |        |        |        | 1         | 1                               |               |
|               | M087-02 |       |                                                | 331       |        |        |        | 1         | 2                               |               |
| M190-03       |         |       | 331                                            |           |        |        | 1      | 1         |                                 |               |

Table S1: Complete list and phylogenetic/phenotypic details of isolates

| Group              | Isolate | Seq'd | cpn60 UT Nearest Neighbour                      | ISR peaks |        |        |        | Phenotype |                                 |               |
|--------------------|---------|-------|-------------------------------------------------|-----------|--------|--------|--------|-----------|---------------------------------|---------------|
|                    |         |       |                                                 | Major     | Minor1 | Minor2 | Minor3 | Acid+     | H <sub>2</sub> O <sub>2</sub> + | Double-strong |
| S. sp. N80 (cont.) | M190-06 |       |                                                 | 331       |        |        |        | 1         | 1                               |               |
|                    | M190-07 |       |                                                 | 331       |        |        |        | 1         | 1                               |               |
|                    | M197-01 |       |                                                 | 331       |        |        |        | 1         | 1                               |               |
|                    | M197-04 |       |                                                 | 331       |        |        |        | 1         | 1                               |               |
|                    | M212-05 |       |                                                 | 331       |        |        |        | 1         | 1                               |               |
|                    | M212-09 |       |                                                 | 331       |        |        |        | 1         | 2                               |               |
|                    | M225-06 |       |                                                 | 331       |        |        |        | 1         | 1                               |               |
| S. sp. N127        | M005-04 | Y     | <i>Streptococcus pneumoniae</i> SP14-BS69 95%   | 335       |        |        |        | 1         | 1                               |               |
|                    | M016-03 | Y     | <i>Streptococcus pneumoniae</i> SP14-BS69 95%   | 334       |        |        |        | 1         | 1                               |               |
|                    | M162-04 | Y     | <i>Streptococcus pneumoniae</i> SP14-BS69 95%   | 335       |        |        |        | 1         | 1                               |               |
|                    | M005-05 |       |                                                 | 311       | 335    | 337    |        | 0         | 0                               |               |
|                    | M016-04 |       |                                                 | 334       |        |        |        | 1         | 1                               |               |
|                    | M037-06 |       |                                                 | 335       |        |        |        | 1         | 1                               |               |
|                    | M052-04 |       |                                                 | 335       | 144    |        |        | 1         | 1                               |               |
|                    | M109-05 |       |                                                 | 336       |        |        |        | 1         | 2                               |               |
|                    | M109-06 |       |                                                 | 335       |        |        |        | 1         | 2                               |               |
|                    | M161-10 |       |                                                 | 335       |        |        |        | 1         | 2                               |               |
| P030-03            |         |       | 335                                             | 360       | 460    | 368    | 2      | 1         |                                 |               |
| S. anginosus       | M003-04 | Y     | <i>Streptococcus anginosus</i> ATCC33397 96%    | 479       |        |        |        | 2         | 1                               |               |
|                    | M037-03 | Y     | <i>Streptococcus anginosus</i> ATCC33397 95%    | 477       | 590    |        |        | 2         | 2                               |               |
|                    | M037-04 | Y     | <i>Streptococcus anginosus</i> ATCC33397 95%    | 477       | 590    |        |        | 2         | 2                               |               |
|                    | M003-05 |       |                                                 | 479       |        |        |        | 2         | 1                               |               |
|                    | M037-02 |       |                                                 | 477       |        |        |        | 2         | 2                               |               |
| S. constellatus    | M005-02 | Y     | <i>Streptococcus constellatus</i> ATCC27823 97% | 383       | 224    | 325    | 441    | 1         | 1                               |               |
|                    | M005-06 | Y     | <i>Streptococcus constellatus</i> ATCC27823 97% | 383       |        |        |        | 1         | 1                               |               |
|                    | M132-05 | Y     | <i>Streptococcus constellatus</i> ATCC27823 97% | 382       |        |        |        | 0         | 0                               |               |
|                    | M199-03 | Y     | <i>Streptococcus constellatus</i> ATCC27823 97% | 383       |        |        |        | 3         | 0                               |               |
|                    | M006-05 |       |                                                 | 383       |        |        |        | 2         | 2                               |               |
|                    | M022-01 |       |                                                 | 383       |        |        |        | 1         | 2                               |               |
|                    | M022-05 |       |                                                 | 383       |        |        |        | 2         | 2                               |               |
|                    | M031-04 |       |                                                 | 383       | 459    | 235    |        | 2         | 2                               |               |
|                    | M052-02 |       |                                                 | 383       |        |        |        | 1         | 1                               |               |
|                    | M052-03 |       |                                                 | 383       | 369    |        |        | 1         | 1                               |               |
|                    | M094-06 |       |                                                 | 383       |        |        |        | 1         | 2                               |               |
|                    | M099-01 |       |                                                 | 383       |        |        |        | 2         | 2                               |               |
|                    | M099-02 |       |                                                 | 383       |        |        |        | 2         | 2                               |               |
|                    | M100-03 |       |                                                 | 383       |        |        |        | 2         | 2                               |               |
|                    | M135-02 |       |                                                 | 382       |        |        |        | 1         | 2                               |               |
|                    | M166-03 |       |                                                 | 383       |        |        |        | 1         | 2                               |               |
| M170-05            |         |       | 382                                             |           |        |        | 1      | 2         |                                 |               |

Table S1: Complete list and phylogenetic/phenotypic details of isolates

| Group                          | Isolate | Seq'd | cpn60 UT Nearest Neighbour                           | ISR peaks |        |        |        | Phenotype |                                 |               |
|--------------------------------|---------|-------|------------------------------------------------------|-----------|--------|--------|--------|-----------|---------------------------------|---------------|
|                                |         |       |                                                      | Major     | Minor1 | Minor2 | Minor3 | Acid+     | H <sub>2</sub> O <sub>2</sub> + | Double-strong |
| <i>S. constellatus</i> (cont.) | M181-01 |       |                                                      | 383       |        |        |        | 2         | 2                               |               |
|                                | M181-02 |       |                                                      | 383       |        |        |        | 2         | 2                               |               |
|                                | M199-04 |       |                                                      | 382       |        |        |        | 1         | 1                               |               |
|                                | M207-04 |       |                                                      | 383       |        |        |        | 1         | 2                               |               |
|                                | M207-06 |       |                                                      | 383       |        |        |        | 2         | 2                               |               |
|                                | M215-05 |       |                                                      | 382       |        |        |        | 2         | 0                               |               |
|                                | M215-08 |       |                                                      | 382       |        |        |        | 2         | 0                               |               |
|                                | M225-07 |       |                                                      | 383       |        |        |        | 2         | 0                               |               |
|                                | P009-11 |       |                                                      | 383       |        |        |        | 1         | 1                               |               |
|                                | P018-03 |       |                                                      | 383       |        |        |        | 2         | 2                               |               |
|                                | P018-04 |       |                                                      | 383       |        |        |        | 2         | 2                               |               |
|                                | P018-06 |       |                                                      | 383       |        |        |        | 3         | 0                               |               |
|                                | P025-11 |       |                                                      | 383       |        |        |        | 1         | 2                               |               |
|                                | P030-04 |       |                                                      | 383       |        |        |        | 2         | 0                               |               |
|                                | P030-15 |       |                                                      | 383       |        |        |        | 2         | 1                               |               |
| <i>Pe. harei</i>               | M212-06 | Y     | <i>Peptoniphilus harei</i> ACS-146-V-Sch2b 98%       | 470       |        |        |        | 1         | 1                               |               |
| <i>Ba. cereus</i>              | M181-03 | Y     | <i>Bacillus cereus</i> NRRL569 98%                   | 230       | 459    |        |        | 1         | 1                               |               |
| <i>Ge. haemolysans</i>         | M094-07 | Y     | <i>Gemella haemolysans</i> z1643 98%                 | 301       | 508    |        |        | 1         | 2                               |               |
|                                | M094-10 | Y     | <i>Gemella haemolysans</i> z1643 87%                 | 298       | 504    |        |        | 1         | 2                               |               |
| <i>St. simulans</i>            | M132-04 | Y     | <i>Staphylococcus simulans</i> ATCC27848 99%         | 333       | 424    | 509    |        | 0         | 1                               |               |
| <i>St. haemolyticus</i>        | M006-04 | Y     | <i>Staphylococcus haemolyticus</i> ATCC29970 99%     | 532       | 554    | 647    | 206    | 1         | 0                               |               |
|                                | M103-09 | Y     | <i>Staphylococcus haemolyticus</i> ATCC29970 100%    | 425       | 448    | 531    | 543    | 1         | 0                               |               |
| <i>St. hominis</i>             | M124-06 | Y     | <i>Staphylococcus hominis</i> ATCC27844 100%         | 388       | 409    | 503    |        | 1         | 0                               |               |
| <i>St. epidermidis</i>         | M167-02 | Y     | <i>Staphylococcus epidermidis</i> ATCC14990 98%      | 350       | 444    | 542    |        | 1         | 0                               |               |
|                                | M167-05 | Y     | <i>Staphylococcus epidermidis</i> ATCC14990 98%      | 350       | 444    | 542    |        | 1         | 0                               |               |
|                                | P006-01 | Y     | <i>Staphylococcus epidermidis</i> ATCC14990 100%     | 353       | 446    |        |        | 1         | 0                               |               |
|                                | M003-06 |       |                                                      | 353       | 445    | 187    | 542    | 1         | 0                               |               |
|                                | M005-03 |       |                                                      | 351       | 353    | 444    | 542    | 1         | 0                               |               |
|                                | M087-04 |       |                                                      | 351       | 444    | 542    |        | 1         | 1                               |               |
|                                | M087-05 |       |                                                      | 350       | 444    | 331    | 542    | 1         | 0                               |               |
|                                | M110-06 |       |                                                      | 350       | 459    | 583    | 444    | 1         | 0                               |               |
|                                | M162-06 |       |                                                      | 350       | 444    | 542    |        | 1         | 0                               |               |
|                                | P006-04 |       |                                                      | 353       | 446    |        |        | 1         | 0                               |               |
| P006-05                        |         |       | 353                                                  | 446       |        |        | 1      | 0         |                                 |               |
| P006-06                        |         |       | 353                                                  | 446       | 542    |        | 1      | 0         |                                 |               |
| <i>St. lugdunensis</i>         | M005-01 | Y     | <i>Staphylococcus lugdunensis</i> ATCC43809 99%      | 351       | 383    | 580    | 584    | 1         | 1                               |               |
|                                | M024-06 | Y     | <i>Staphylococcus lugdunensis</i> ATCC43809 95%      | 351       | 583    | 446    | 607    | 1         | 0                               |               |
|                                | M187-03 | Y     | <i>Staphylococcus lugdunensis</i> ATCC43809 100%     | 583       | 607    | 654    | 685    | 1         | 0                               |               |
| <i>St. piscifermentans</i>     | M197-03 | Y     | <i>Staphylococcus piscifermentans</i> ATCC51136 100% |           |        |        |        | 2         | 0                               |               |
| <i>Ba. fragilis</i>            | M057-03 | Y     | <i>Bacteroides fragilis</i> ATCC25285 100%           | 575       | 581    | 100    | 168    | 1         | 0                               |               |



Table S1: Complete list and phylogenetic/phenotypic details of isolates

| Group                       | Isolate | Seq'd | cpn60 UT Nearest Neighbour                                 | ISR peaks |        |        |        | Phenotype |                                 |               |
|-----------------------------|---------|-------|------------------------------------------------------------|-----------|--------|--------|--------|-----------|---------------------------------|---------------|
|                             |         |       |                                                            | Major     | Minor1 | Minor2 | Minor3 | Acid+     | H <sub>2</sub> O <sub>2</sub> + | Double-strong |
| <i>Ba. fragilis</i> (cont.) | M083-05 | Y     | <i>Bacteroides fragilis</i> ATCC25285 99%                  | 570       | 575    | 579    | 168    | 1         | 0                               |               |
| <i>Pr. disiens</i>          | M027-05 | Y     | <i>Prevotella disiens</i> ATCC29426 99%                    | 583       | 353    | 607    |        | 1         | 0                               |               |
| <i>Pr. bivia</i>            | M170-07 | Y     | <i>Prevotella bivia</i> ATCC29303 99%                      | 537       | 771    | 522    | 791    | 1         | 0                               |               |
|                             | M175-04 | Y     | <i>Prevotella bivia</i> ATCC29303 99%                      | 543       | 774    | 529    |        | 1         | 0                               |               |
| <i>K. pneumoniae</i>        | M161-09 | Y     | <i>Klebsiella pneumoniae</i> ATCC13883 99%                 | 291       | 435    | 427    | 284    | 1         | 0                               |               |
| <i>E. coli</i>              | M087-03 | Y     | <i>Escherichia coli</i> ATCC35401 99%                      | 439       | 534    | 524    |        | 1         | 0                               |               |
|                             | M126-03 | Y     | <i>Escherichia coli</i> ATCC35401 99%                      | 439       | 534    | 429    |        | 0         | 1                               |               |
|                             | M135-01 | Y     | <i>Escherichia coli</i> ATCC35401 99%                      | 439       | 534    | 429    |        | 2         | 2                               |               |
|                             | M045-06 |       |                                                            | 439       | 429    | 524    | 534    | 1         | 0                               |               |
|                             | M094-08 |       |                                                            | 439       | 534    | 526    |        | 1         | 0                               |               |
| N159                        | M157-04 | Y     | <i>Actinomyces</i> <80%                                    | 397       | 145    | 383    | 259    | 1         | 0                               |               |
| <i>Bif. longum</i>          | M022-02 | Y     | <i>Bifidobacterium longum</i> ATCC15707 100%               | 182       | 178    | 252    |        | 3         | 0                               |               |
|                             | M045-01 | Y     | <i>Bifidobacterium longum</i> ATCC15707 100%               | 178       | 181    | 352    | 183    | 2         | 0                               |               |
|                             | M051-03 | Y     | <i>Bifidobacterium longum</i> ATCC15707 100%               | 182       | 110    | 178    | 252    | 3         | 1                               |               |
|                             | M052-01 | Y     | <i>Bifidobacterium longum</i> ATCC15707 95%                | 177       | 182    | 162    | 389    | 2         | 0                               |               |
|                             | M109-01 | Y     | <i>Bifidobacterium longum</i> ATCC15707 98%                | 178       | 182    | 162    |        | 2         | 0                               |               |
|                             | M158-01 | Y     | <i>Bifidobacterium longum</i> ATCC15707 100%               | 178       | 162    |        |        | 2         | 0                               |               |
|                             | M199-02 | Y     | <i>Bifidobacterium longum</i> ATCC15707 99%                | 509       | 110    | 181    | 494    | 3         | 0                               |               |
|                             | M094-03 |       |                                                            | 510       | 193    | 181    | 496    | 3         | 0                               |               |
|                             | P025-09 |       |                                                            | 182       | 178    | 252    | 162    | 2         | 2                               |               |
|                             | P025-12 |       |                                                            | 177       | 182    |        |        | 2         | 0                               |               |
|                             | P030-09 |       |                                                            | 510       | 177    | 495    |        | 2         | 0                               |               |
|                             | P030-10 |       |                                                            | 178       | 162    | 510    |        | 2         | 0                               |               |
|                             | P030-12 |       |                                                            | 177       | 162    |        |        | 2         | 0                               |               |
| P030-13                     |         |       | 177                                                        | 182       | 162    | 171    | 2      | 0         |                                 |               |
| <i>B. catenulatum</i>       | M052-06 | Y     | <i>Bifidobacterium catenulatum</i> JCM7130 (partial seq. o | 527       | 227    | 513    |        | 3         | 0                               |               |
|                             | M091-09 |       |                                                            | 532       | 104    | 237    | 517    | 3         | 3                               | Y             |
|                             | M100-01 |       |                                                            | 529       | 227    | 515    | 318    | 3         | 0                               |               |
|                             | M100-02 |       |                                                            | 529       | 227    | 318    | 515    | 3         | 0                               |               |
|                             | M109-02 |       |                                                            | 528       | 513    |        |        | 2         | 0                               |               |
|                             | M148-01 |       |                                                            | 527       | 512    |        |        | 3         | 0                               |               |
|                             | M148-02 |       |                                                            | 530       | 237    | 515    |        | 3         | 2                               | Y             |
|                             | M170-02 |       |                                                            | 530       | 515    |        |        | 3         | 3                               | Y             |
| M170-09                     |         |       | 530                                                        | 238       | 104    | 515    | 3      | 3         | Y                               |               |
| <i>G. vaginalis</i>         | M031-02 | Y     | <i>Gardnerella vaginalis</i> ATCC14018 88%                 | 235       | 459    |        |        | 0         | 0                               |               |
|                             | M045-03 | Y     | <i>Gardnerella vaginalis</i> ATCC14018 89%                 | 459       | 444    |        |        | 0         | 0                               |               |
|                             | M052-05 | Y     | <i>Gardnerella vaginalis</i> ATCC14018 89%                 | 455       | 269    | 440    |        | 1         | 1                               |               |
|                             | M067-07 | Y     | <i>Gardnerella vaginalis</i> ATCC14018 89%                 | 453       | 438    |        |        | 1         | 2                               |               |
|                             | M072-03 | Y     | <i>Gardnerella vaginalis</i> ATCC14018 88%                 | 460       | 235    | 445    |        | 1         | 1                               |               |
|                             | M077-04 | Y     | <i>Gardnerella vaginalis</i> ATCC14018 90%                 | 457       | 442    | 232    | 109    | 0         | 0                               |               |

Table S1: Complete list and phylogenetic/phenotypic details of isolates

| Group                | Isolate | Seq'd | cpn60 UT Nearest Neighbour                 | ISR peaks |        |        |        | Phenotype |                                 |               |
|----------------------|---------|-------|--------------------------------------------|-----------|--------|--------|--------|-----------|---------------------------------|---------------|
|                      |         |       |                                            | Major     | Minor1 | Minor2 | Minor3 | Acid+     | H <sub>2</sub> O <sub>2</sub> + | Double-strong |
| G. vaginalis (cont.) | M082-02 | Y     | <i>Gardnerella vaginalis</i> ATCC14018 88% | 457       | 162    | 442    |        | 1         | 1                               |               |
|                      | M103-06 | Y     | <i>Gardnerella vaginalis</i> ATCC14018 88% | 454       | 439    | 199    | 108    | 0         | 0                               |               |
|                      | M103-07 | Y     | <i>Gardnerella vaginalis</i> ATCC14018 89% | 454       | 334    | 439    |        | 0         | 0                               |               |
|                      | M126-06 | Y     | <i>Gardnerella vaginalis</i> ATCC14018 88% | 460       | 445    |        |        | 0         | 1                               |               |
|                      | M139-06 | Y     | <i>Gardnerella vaginalis</i> ATCC14018 88% | 458       | 235    | 443    |        | 0         | 0                               |               |
|                      | M157-06 | Y     | <i>Gardnerella vaginalis</i> ATCC14018 90% | 464       | 449    | 235    |        | 0         | 0                               |               |
|                      | M163-04 | Y     | <i>Gardnerella vaginalis</i> ATCC14018 99% | 232       | 321    | 455    | 313    | 1         | 0                               |               |
|                      | M165-01 | Y     | <i>Gardnerella vaginalis</i> ATCC14018 97% | 455       | 164    | 440    |        | 0         | 0                               |               |
|                      | M176-02 | Y     | <i>Gardnerella vaginalis</i> ATCC14018 88% | 455       | 440    |        |        | 0         | 0                               |               |
|                      | M176-03 | Y     | <i>Gardnerella vaginalis</i> ATCC14018 90% | 456       | 441    | 235    |        | 0         | 2                               |               |
|                      | M207-05 | Y     | <i>Gardnerella vaginalis</i> ATCC14018 88% | 502       | 458    | 175    | 619    | 3         | 2                               | Y             |
|                      | M220-04 | Y     | <i>Gardnerella vaginalis</i> ATCC14018 89% | 453       | 459    | 438    |        | 0         | 0                               |               |
|                      | P006-02 | Y     | <i>Gardnerella vaginalis</i> ATCC14018 89% | 454       | 439    |        |        | 0         | 0                               |               |
|                      | M022-06 |       |                                            | 458       | 443    |        |        | 1         | 1                               |               |
|                      | M029-06 |       |                                            | 439       | 454    |        |        | 0         | 0                               |               |
|                      | M031-01 |       |                                            | 459       | 235    | 444    | 218    | 0         | 0                               |               |
|                      | M031-03 |       |                                            | 459       | 235    | 444    | 218    | 0         | 0                               |               |
|                      | M031-05 |       |                                            | 459       | 235    | 444    |        | 1         | 0                               |               |
|                      | M031-06 |       |                                            | 459       | 444    |        |        | 0         | 0                               |               |
|                      | M045-02 |       |                                            | 459       | 164    | 444    | 234    | 0         | 0                               |               |
|                      | M045-04 |       |                                            | 459       | 444    |        |        | 0         | 0                               |               |
|                      | M045-05 |       |                                            | 460       | 235    | 110    | 445    | 0         | 0                               |               |
|                      | M059-04 |       |                                            | 459       | 234    | 443    |        | 0         | 0                               |               |
|                      | M061-01 |       |                                            | 455       | 281    | 214    | 440    | 0         | 0                               |               |
|                      | M072-04 |       |                                            | 460       | 235    | 445    |        | 0         | 1                               |               |
|                      | M076-03 |       |                                            | 457       | 442    |        |        | 1         | 0                               |               |
|                      | M083-06 |       |                                            | 455       | 440    | 281    | 426    | 0         | 1                               |               |
|                      | M101-05 |       |                                            | 455       | 440    | 281    |        | 0         | 0                               |               |
|                      | M135-10 |       |                                            | 456       | 441    |        |        | 0         | 0                               |               |
|                      | M139-07 |       |                                            | 454       | 439    |        |        | 0         | 0                               |               |
|                      | M141-01 |       |                                            | 459       | 444    | 235    |        | 0         | 0                               |               |
|                      | M141-02 |       |                                            | 459       | 444    | 235    |        | 0         | 0                               |               |
|                      | M141-03 |       |                                            | 462       | 456    | 447    |        | 0         | 0                               |               |
|                      | M141-04 |       |                                            | 462       | 446    |        |        | 0         | 0                               |               |
|                      | M155-07 |       |                                            | 460       | 445    | 235    |        | 0         | 0                               |               |
|                      | M157-05 |       |                                            | 456       | 441    |        |        | 0         | 0                               |               |
| M158-03              |         |       | 453                                        | 460       | 438    | 445    | 0      | 0         |                                 |               |
| M158-04              |         |       | 453                                        | 460       | 438    | 445    | 0      | 0         |                                 |               |
| M161-08              |         |       | 459                                        | 444       |        |        | 0      | 2         |                                 |               |
| M163-05              |         |       | 455                                        | 440       |        |        | 0      | 2         |                                 |               |

Table S1: Complete list and phylogenetic/phenotypic details of isolates

| Group                       | Isolate | Seq'd | cpn60 UT Nearest Neighbour | ISR peaks |        |        |        | Phenotype |                                 |               |
|-----------------------------|---------|-------|----------------------------|-----------|--------|--------|--------|-----------|---------------------------------|---------------|
|                             |         |       |                            | Major     | Minor1 | Minor2 | Minor3 | Acid+     | H <sub>2</sub> O <sub>2</sub> + | Double-strong |
| <i>G. vaginalis</i> (cont.) | M163-06 |       |                            | 466       | 451    |        |        | 0         | 0                               |               |
|                             | M163-07 |       |                            | 466       | 451    |        |        | 0         | 0                               |               |
|                             | M166-04 |       |                            | 456       | 441    |        |        | 0         | 0                               |               |
|                             | M170-08 |       |                            | 438       | 453    |        |        | 0         | 0                               |               |
|                             | M175-03 |       |                            | 460       | 445    |        |        | 0         | 0                               |               |
|                             | M176-04 |       |                            | 456       | 441    | 235    |        | 0         | 2                               |               |
|                             | M178-07 |       |                            | 457       | 441    |        |        | 1         | 2                               |               |
|                             | M187-01 |       |                            | 458       | 443    |        |        | 0         | 0                               |               |
|                             | M187-02 |       |                            | 456       | 441    |        |        | 0         | 0                               |               |
|                             | M187-04 |       |                            | 456       | 441    |        |        | 0         | 0                               |               |
|                             | M190-04 |       |                            | 455       | 440    |        |        | 0         | 0                               |               |
|                             | M190-05 |       |                            | 460       | 445    |        |        | 0         | 0                               |               |
|                             | M199-05 |       |                            | 454       | 439    |        |        | 0         | 0                               |               |
|                             | M200-06 |       |                            | 458       | 443    |        |        | 0         | 0                               |               |
|                             | M200-08 |       |                            | 454       | 439    |        |        | 0         | 0                               |               |
|                             | M205-08 |       |                            | 454       | 439    |        |        | 0         | 0                               |               |
|                             | M215-06 |       |                            | 459       | 444    |        |        | 0         | 0                               |               |
|                             | M225-09 |       |                            | 453       | 438    |        |        | 0         | 0                               |               |
|                             | P006-03 |       |                            | 454       | 438    |        |        | 0         | 0                               |               |
|                             | P009-12 |       |                            | 457       | 442    |        |        | 0         | 1                               |               |
| P030-05                     |         |       | 457                        | 162       | 442    |        | 1      | 1         |                                 |               |
| P030-06                     |         |       | 457                        | 442       |        |        | 1      | 1         |                                 |               |
| Unidentified (Group 1)      | M149-01 |       | 129/317                    | 129       | 318    | 562    |        | 2         | 0                               |               |
|                             | M149-02 |       | 129/317                    | 562       | 432    | 318    | 538    | 2         | 0                               |               |
|                             | M149-03 |       | 129/317                    | 129       | 317    | 562    | 389    | 2         | 0                               |               |
|                             | M149-04 |       | 129/317                    | 129       | 318    | 562    | 389    | 2         | 0                               |               |
| Unidentified (Group 2)      | M104-09 |       | 210/233                    | 129       | 210    | 233    | 563    | 2         | 0                               |               |
|                             | P007-01 |       | 210/233                    | 210       | 233    | 101    |        | 2         | 0                               |               |
|                             | P007-02 |       | 210/233                    | 210       | 233    |        |        | 2         | 0                               |               |
|                             | P007-03 |       | 210/233                    | 210       | 233    |        |        | 2         | 0                               |               |
|                             | P007-04 |       | 210/233                    | 210       | 233    | 562    |        | 2         | 0                               |               |
|                             | P007-05 |       | 210/233                    | 233       | 210    | 101    |        | 2         | 0                               |               |
|                             | P007-06 |       | 210/233                    | 233       | 210    | 562    | 101    | 2         | 0                               |               |
|                             | P018-01 |       | 210/233                    | 210       | 318    | 233    | 129    | 3         | 0                               |               |
|                             | P018-02 |       | 210/233                    | 210       | 233    |        |        | 3         | 0                               |               |
|                             | P018-05 |       | 210/233                    | 534       | 210    | 129    | 519    | 3         | 0                               |               |
| Unidentified (Group 3)      | M012-05 |       | 353/245                    | 353       | 245    | 338    |        | 1         | 0                               |               |
|                             | M012-06 |       | 353/245                    | 353       | 245    | 338    |        | 1         | 0                               |               |
| Unidentified (Group 4)      | M221-01 |       | 523/183                    | 523       | 183    | 509    | 192    | 3         | 0                               |               |
|                             | M221-04 |       | 523/183                    | 523       | 183    |        |        | 3         | 0                               |               |

Table S1: Complete list and phylogenetic/phenotypic details of isolates

| <i>Group</i>           | <i>Isolate</i> | <i>Seq'd</i> | <i>cpn60 UT Nearest Neighbour</i> | <b>ISR peaks</b> |               |               |               | <b>Phenotype</b> |                                    |                      |
|------------------------|----------------|--------------|-----------------------------------|------------------|---------------|---------------|---------------|------------------|------------------------------------|----------------------|
|                        |                |              |                                   | <i>Major</i>     | <i>Minor1</i> | <i>Minor2</i> | <i>Minor3</i> | <i>Acid+</i>     | <i>H<sub>2</sub>O<sub>2</sub>+</i> | <i>Double-strong</i> |
| Unidentified (Group 5) | M061-06        |              | 526/544                           | 544              |               |               |               | 1                | 0                                  |                      |
|                        | M158-02        |              | 526/544                           | 541              | 239           | 545           | 526           | 2                | 2                                  |                      |
|                        | M175-01        |              | 526/544                           | 526              |               |               |               | 3                | 0                                  |                      |
| Unidentified (Unique)  | M057-04        |              | 586/333                           | 586              | 333           | 349           |               | 0                | 1                                  |                      |
| Failed interspacer     | M176-01        |              |                                   |                  |               |               |               | 0                | 0                                  |                      |
|                        | M225-01        |              |                                   |                  |               |               |               | 1                | 1                                  |                      |
|                        | P002-13        |              |                                   |                  |               |               |               | 0                | 0                                  |                      |
|                        | P016-06        |              |                                   |                  |               |               |               | 1                | 1                                  |                      |