

**Table S1.** Basic information of two *Lactobacillus salivarius* strains in RAST server.

|  | JSWX5_1 | CML352 |
|--|---------|--------|
| Cofactors, Vitamins, Prosthetic Groups, Pigments   | 48      | 46     |
| Cell Wal and Capsule                               | 47      | 46     |
| Virulence, Disease and Denfense                    | 37      | 33     |
| Potassium metabolism                               | 3       | 3      |
| Photosynthesis                                     | 0       | 0      |
| Miscellaneous                                      | 10      | 8      |
| Phages, Prophages, Transposable elements, Plasmids | 0       | 3      |
| Membrane Transport                                 | 19      | 19     |
| Iron acquistion and metabolism                     | 4       | 4      |
| RNA Metabolism                                     | 33      | 33     |
| Nucleosides and Nucleotides                        | 73      | 84     |
| Protein Metabolism                                 | 114     | 111    |
| Cell Division and Cell Cycle                       | 5       | 5      |
| Motility and Chemotaxis                            | 0       | 0      |
| Regulation and Cell signaling                      | 8       | 13     |
| Secondary Metabolism                               | 0       | 0      |
| DNA Metabolism                                     | 50      | 68     |
| Fatty Acids, Lipids, and Isoprenoids               | 22      | 22     |
| Nitrogen Metabolism                                | 0       | 0      |
| Dormancy and Sporulation                           | 6       | 6      |
| Respiration  | 17      | 17     |
| Stress Response                                    | 9       | 10     |
| Metabolism of Aromatic Compounds                   | 4       | 3      |
| Amino Acids and Derivative                         | 108     | 97     |
| Sulfur Metabolism                                  | 3       | 3      |
| Phosphorus Metabolism                              | 9       | 9      |
| Carbohydrates                                      | 146     | 121    |

**Table S2.** Predicted antimicrobial peptides produced by *L. salivarius* CML352 and the target pathogens.

| Target pathogen | Antimicrobial peptide ID | Class  | Predictive value (Type) |
|-----------------|--------------------------|--------|-------------------------|
| <i>E. coli</i>  | BDGMGDOC_00461           | Active | 0.53 (PPV)              |
|                 | BDGMGDOC_00473           | Active | 0.53 (PPV)              |
|                 | BDGMGDOC_00600           | Active | 0.50 (PPV)              |
|                 | BDGMGDOC_00650           | Active | 0.56 (PPV)              |
|                 | BDGMGDOC_00892           | Active | 0.58 (PPV)              |
|                 | BDGMGDOC_01260           | Active | 0.52 (PPV)              |
|                 | BDGMGDOC_01293           | Active | 0.61 (PPV)              |
|                 | BDGMGDOC_01453           | Active | 0.51 (PPV)              |
|                 | BDGMGDOC_01709           | Active | 0.50 (PPV)              |

|                       |                |        |             |
|-----------------------|----------------|--------|-------------|
| <i>S. typhimurium</i> | BDGMGDOC_00144 | Active | 0.588 (PPV) |
|                       | BDGMGDOC_00180 | Active | 0.897 (PPV) |
|                       | BDGMGDOC_00473 | Active | 0.578 (PPV) |
|                       | BDGMGDOC_00650 | Active | 0.51 (PPV)  |
|                       | BDGMGDOC_00892 | Active | 0.998 (PPV) |
|                       | BDGMGDOC_00892 | Active | 0.998 (PPV) |
|                       | BDGMGDOC_01293 | Active | 0.97 (PPV)  |
|                       | BDGMGDOC_01517 | Active | 0.65 (PPV)  |
|                       | BDGMGDOC_01910 | Active | 0.68 (PPV)  |
| <i>C. perfringens</i> | BDGMGDOC_00892 | Active | 0.534 (PPV) |
|                       | BDGMGDOC_01910 | Active | 0.564 (PPV) |