Supplementary Material

***In vitro o*rganic acid production and *in vivo* food pathogen suppression by probiotic *S. thermophilus* KLDS 3.1003 and *L. bulgaricus* KLDS 1.0207**

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Supplementary Figures

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**B**

**A**

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D

**C**



## Supplementary Figures

S1Three dimensional structures of 4 key enzymes involved in carbohydrate fermentation in *S. thermophilus* KLDS 3.1003 (A) Acetyl transferase (B) Rhamnosyl trnnsferase (C) glycosyl transferase, and (D) 6-phospho-beta glucosidase

S2 A heatmap comparing the relative abundance of metabolic pathways of three *S. thermophilus* strains – LMD-9 (CP00041), SMQ-301 (CP011217) and KLDS 3.1003 (CP016877). KLDS 3.1003 is distinct in that it alone has metabolic pathways for the biosynthesis of other secondary metabolites as well as having the highest amino acid metabolism pathways.

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**Supplementary Figure 1.** The figure legends are required to have the same font as the main text, 12 point normal Times New Roman, single spaced. Please use a single paragraph for each legend and prepare the figures keeping in mind the PDF layout.