

SUPPLEMENTARY TABLES

Supplementary Table 1. Analyses of the oral health questionnaire.

| | 0W | Placebo | | Heat-killed probiotics | | | Postbiotics | | |
|---|-----------|-----------|-----------|------------------------|------------------------|------------------------|-------------|------------------------|------------------------|
| | | 2W | 4W | 0W | 2W | 4W | 0W | 2W | 4W |
| Toothache / Gingival Swelling ^c | 0.4±0.71 | 0.2±0.41 | 0.16±0.47 | 0.31±0.68 | 0.19±0.49 | 0.19±0.69 | 0.48±0.59 | 0.28±0.54 | 0.16±0.37 |
| Teeth bleeding, while brushing ^c | 0.48±0.78 | 0.44±0.65 | 0.44±0.65 | 0.46±0.81 | 0.27±0.53 | 0.31±0.62 | 0.44±0.58 | 0.28±0.61 | 0.16±0.37 |
| Ruptured mouth or pustule formation ^c | 0.6±0.76 | 0.72±0.98 | 0.52±0.82 | 0.5±0.71 | 0.23±0.51 ^a | 0.15±0.37 ^a | 0.44±0.82 | 0.04±0.2 ^b | 0.08±0.28 ^a |
| Sore throat ^c | 0.48±0.59 | 0.4±0.87 | 0.36±0.76 | 0.42±0.7 | 0.19±0.49 | 0.19±0.4 | 0.28±0.46 | 0.2±0.41 | 0.16±0.47 |
| Drool ^c | 0.32±0.56 | 0.52±0.82 | 0.48±0.65 | 0.38±0.57 | 0.12±0.33 ^a | 0.15±0.46 ^a | 0.6±0.76 | 0.12±0.33 ^a | 0.16±0.37 ^a |
| Cough ^c | 0.32±0.48 | 0.24±0.6 | 0.4±0.76 | 0.62±0.8 | 0.27±0.6 | 0.54±0.81 | 0.36±0.57 | 0.12±0.44 | 0.12±0.44 |

^aSignificant difference compared with the placebo group, $p < 0.05$.

^bHighly significant difference compared with the placebo group, $p < 0.01$.

^cScores were evaluated according to severity: 3 points = severe; 2 points = normal; 1 point = mild; 0 point = none; the data are presented as mean ± SD collected from all groups.

Supplementary Table 2. Intestinal symptoms based on health survey evaluation^c.

| | 0W | Placebo | | Heat-killed probiotics | | | Postbiotics | | |
|--|-----------|-----------|-----------|------------------------|------------------------|------------------------|-------------|------------------------|------------------------|
| | | 2W | 4W | 0W | 2W | 4W | 0W | 2W | 4W |
| Defecation ^d | 0.08±0.28 | 0.2±0.41 | 0.36±0.49 | 0.23±0.43 | 0.38±0.5 | 0.46±0.58 | 0.2±0.41 | 0.4±0.5 | 0.32±0.48 |
| Constipation ^c | 0.48±0.65 | 0.44±0.65 | 0.6±0.71 | 0.31±0.68 | 0.15±0.46 | 0.15±0.46 ^a | 0.28±0.46 | 0.16±0.37 | 0.12±0.33 ^b |
| Diarrhea ^c | 0.2±0.41 | 0.32±0.63 | 0.36±0.64 | 0.27±0.53 | 0.15±0.46 | 0.15±0.46 | 0.12±0.33 | 0.24±0.66 | 0.16±0.37 |
| Stomach pain ^c | 0.68±0.8 | 0.4±0.65 | 0.32±0.63 | 0.35±0.49 | 0.23±0.43 | 0.23±0.43 | 0.36±0.49 | 0.12±0.33 | 0.16±0.37 |
| Gastroesophageal ^c Reflux ^c | 0.68±0.9 | 0.48±0.65 | 0.52±0.71 | 0.31±0.47 | 0.15±0.37 ^a | 0.19±0.4 ^a | 0.28±0.46 | 0.08±0.28 ^b | 0.12±0.33 ^a |
| Cold ^c | 0.36±0.57 | 0.44±0.71 | 0.56±0.82 | 0.46±0.58 | 0.23±0.51 | 0.12±0.43 ^a | 0.32±0.47 | 0.2±0.41 | 0.16±0.37 ^a |
| Drowsiness ^c | 0.36±0.7 | 0.4±0.58 | 0.52±0.65 | 0.31±0.47 | 0.15±0.37 | 0.08±0.27 ^b | 0.32±0.56 | 0.16±0.37 | 0.12±0.33 ^b |

^aSignificant difference compared with the placebo group, $p < 0.05$.

^bHighly significant difference compared with the placebo group, $p < 0.01$.

^cScores were evaluated according to severity: 3 points = severe; 2 points = normal; 1 point = mild; 0 point = none; the data are presented as mean ± SD collected from all groups.

^dScores were analyzed based on frequency: >3 days = 2 points; once every 3 days = 1 point; more than once a day = 0 points.