## Supplementary Material

Association of Plasma Hemoglobin A1c with Improvement of Cognitive Functions by Probiotic *Bifidobacterium breve* Supplementation in Healthy Adults with Mild Cognitive Impairment

**Supplementary Table 1.** Changes of blood parameters during the test period

|                          | Probiotics Baseline | Probiotics 16 weeks | Placebo Baseline | Placebo 16 weeks | Changes from baseline Probiotics | Changes from baseline Placebo | p     |
|--------------------------|---------------------|---------------------|------------------|-----------------|-------------------------------|-------------------------------|------|
| Triglyceride (mg/dL)     | 85.6 (0.6)          | 89.1 (9.2)          | 91.9 (7.5)       | 89.4 (7.3)       | 3.6 (38.4)                    | -2.7 (30.5)                   | 0.42 |
| Total-Cholesterol (mg/dL)| 221.7 (5.9)         | 230.7 (5.7)         | 216.7 (4.9)      | 219.6 (5.1)      | 9.1 (19.3)                    | 3.0 (18.9)                    | 0.16 |
| Blood urea nitrogen (mg/dL)| 15.0 (0.6)     | 15.0 (0.6)          | 14.0 (0.6)       | 14.2 (0.5)       | 0.19                          | 0 (2.9)                       | 0.63 |
| Total-Bil (mg/dL)        | 0.81 (0.05)         | 0.73 (0.05)         | 0.75 (0.04)      | 0.67 (0.04)      | 0.42                          | -0.1 (0.3)                    | 0.79 |
| TP (g/dL)                | 7.27 (0.06)         | 7.39 (0.07)         | 7.23 (0.06)      | 7.35 (0.06)      | 0.19                          | 0.1 (0.3)                     | 0.94 |
| Alb (g/dL)               | 4.34 (0.04)         | 4.38 (0.04)         | 4.33 (0.03)      | 4.28 (0.04)      | 0.96                          | 0 (0.2)                       | 0.0232 |
| ALP (units/L)            | 202.8 (8.3)         | 214.8 (9.0)         | 202.5 (7.7)      | 211.3 (7.8)      | 12.0 (21.2)                   | 6.5 (21.4)                    | 0.26 |
| LDH (units/L)            | 181.1 (4.8)         | 188.5 (4.4)         | 182.7 (4.1)      | 188.9 (5.0)      | 7.4 (14.9)                    | 5.8 (17.4)                    | 0.65 |
| γ-GTP (units/L)          | 23.0 (1.9)          | 24.1 (1.9)          | 25.7 (2.2)       | 28.4 (2.9)       | 1.1 (4.8)                     | 2.6 (9.5)                     | 0.38 |
| AST (units/L)            | 20.7 (1.0)          | 23.0 (0.9)          | 22.3 (0.9)       | 23.8 (1.0)       | 2.3 (4.0)                     | 1.4 (5.6)                     | 0.46 |
| ALT (units/L)            | 17.5 (1.4)          | 19.0 (1.2)          | 17.7 (1.0)       | 19.2 (1.3)       | 1.6 (6.3)                     | 1.3 (4.9)                     | 0.87 |
| CREA (mg/dL)             | 0.77 (0.03)         | 0.77 (0.03)         | 0.74 (0.02)      | 0.74 (0.02)      | 0.39                          | 0 (0.1)                       | 0.87 |
| Uric acid (mg/dL)        | 5.21 (0.2)          | 5.09 (0.2)          | 5.38 (0.2)       | 5.14 (0.2)       | -0.1 (0.6)                    | -0.3 (0.6)                    | 0.27 |
| LDL-Cholesterol (mg/dL)  | 135.5 (5.8)         | 133.7 (5.2)         | 133.1 (5.6)      | 128.3 (5.8)      | -1.9 (16.2)                   | -4.9 (19.4)                   | 0.45 |
| Blood-glucose (mg/dL)    | 89.0 (1.2)          | 91.0 (0.9)          | 88.7 (1.1)       | 92.9 (1.4)       | 2.1 (5.5)                     | 4.0 (7.0)                     | 0.17 |
| HDL-Cholesterol (mg/dL)  | 73.5 (2.4)          | 76.3 (2.7)          | 71.8 (2.6)       | 71.1 (2.7)       | 2.9 (8.6)                     | -0.5 (7.9)                    | 0.08 |
| HbA1c (%)                | 5.34 (0.05)         | 5.4 (0.04)          | 5.32 (0.05)      | 5.4 (0.04)       | 0.72                          | 0 (0.2)                       | 0.77 |

Values are indicated as mean (SD). p values are by Student's t test for inter-group differences.