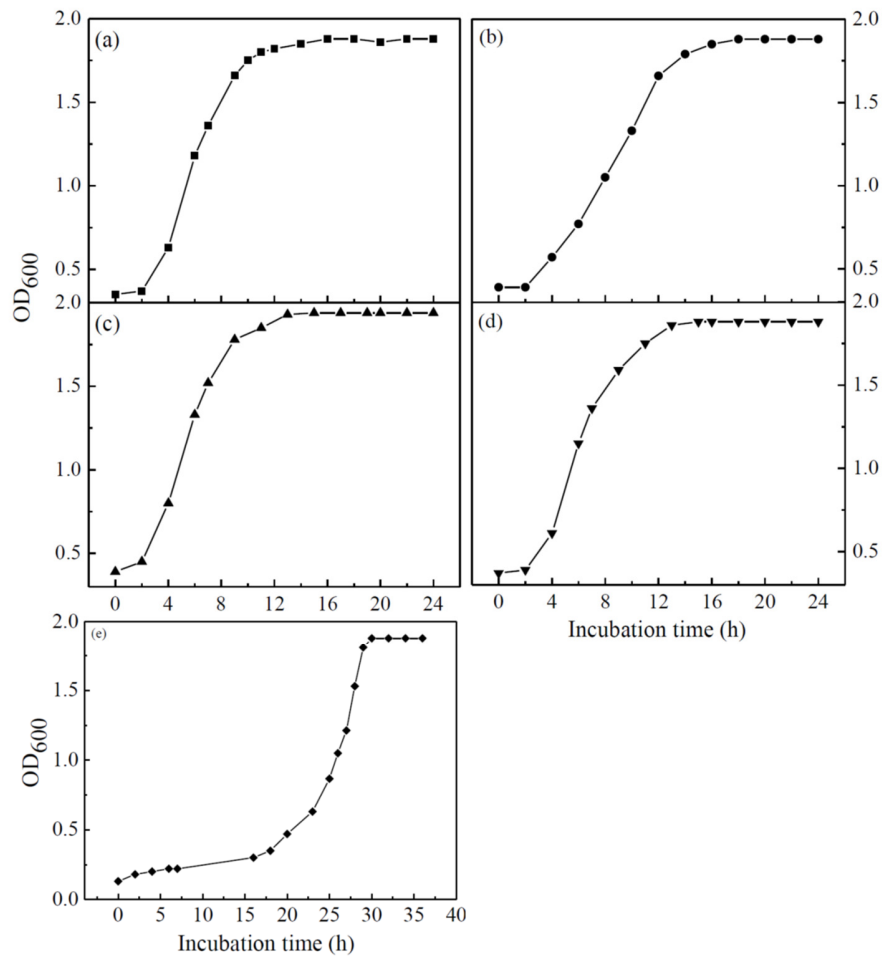


## Supplementary Materials

**Figure S1. Supplementary material.** The growth curves of probiotic strains: *L. acidophilus* (a, ■), *L. casei* (b, ●), *L. rhamnosus* (c, ▲), *B. longum* (d, ▼) and *B. animalis subsp. Lactis* (e, ◆).



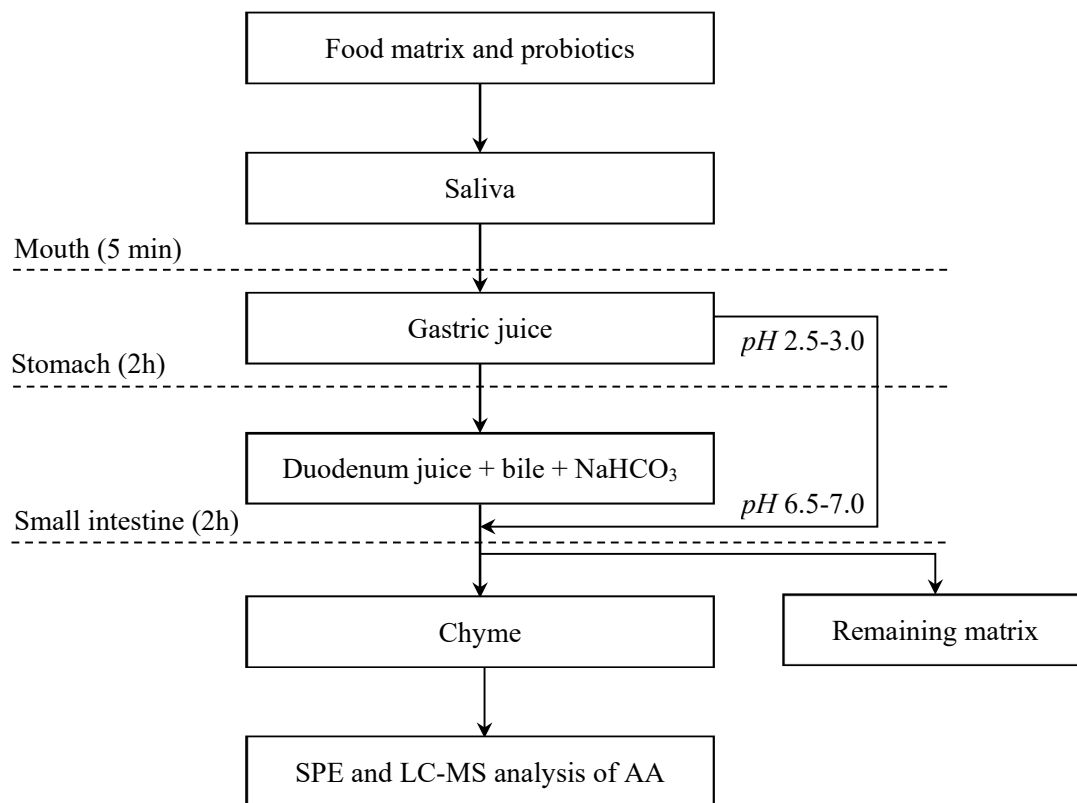
**Table S1. Supplementary material.** Constituents of the various synthetic digestion fluids of the in vitro digestion model (per liter).

Digestive Juice	Saliva	Gastric Juice	Duodenal Juice	Bile Juice
Inorganic	0.3 g NaCl 0.9 g KCl 1.7 g NaHCO <sub>3</sub> 0.9 g NaH <sub>2</sub> PO <sub>4</sub> 0.57 g NaSO <sub>4</sub> 0.2 g KSCN	0.82 g KCl 0.27 g NaH <sub>2</sub> PO <sub>4</sub> 0.4 g CaCl <sub>2</sub> ·2H <sub>2</sub> O 0.31 g NH <sub>4</sub> Cl 6.5 mL HCl (37%)	0.56 g KCl 3.39 g NaHCO <sub>3</sub> 0.08 g KH <sub>2</sub> PO <sub>4</sub> 0.05 g MgCl <sub>2</sub> 0.18 mL HCl (37%)	0.38 g KCl 5.79 g NaHCO <sub>3</sub> 0.15 mL HCl (37%)
Organic	0.2 g urea	0.65 g glucose 0.02 g glucuronic acid 0.33 g glucosamine hydrochloride 0.085 g urea	0.1 g urea	0.25 g urea
Add to the mixture organic + inorganic solution	290 mg $\alpha$ -amylase 15 mg uric acid 25 mg mucin	1 g BSA 2.5 g pepsine 3 g mucin	0.2 g CaCl <sub>2</sub> ·2H <sub>2</sub> O 1 g BSA 9 g pancreatin 1.5 g lipase	0.22 g CaCl <sub>2</sub> ·2H <sub>2</sub> O 1.8 g BSA 30 g Bile
pH	7.9 $\pm$ 0.2	1.30 $\pm$ 0.02	8.8 $\pm$ 0.2	8.2 $\pm$ 0.2

**Table S2. Supplementary material.** The mean recoveries of two food matrices (biscuits and chips).

Food matrices	Mean recovery (%)
Sample 1 (biscuits)	97.0 $\pm$ 0.1%
Sample 2 (chips)	92.8 $\pm$ 0.1%

**Figure S2. Supplementary material.** Schematic representation of *in vitro* digestion model used.



**Figure S3. Supplementary material.** Acrylamide (AA) concentration of spiked food sample 1 (biscuits) and food sample 2 (chips) after incubation with PBS solution at three different pH conditions (pH 2.5-3.0, 6.5-7.0 and 10.5-11.0) for 4h at 37 °C. The food samples were spiked to a concentration of 750 ng AA/g food.

