

## Supplementary figures

Figure S1. Body weight changes during the experimental periods

\* Significantly different among the groups at each time point at  $<0.05$ .

Figure S2. Gut microbiota in the cecum at the family level

Figure S3. The morphology of large intestines

- A. Large intestine villi length and width and crypt height
- B. Hematoxylin-eosin staining in the large intestines
- C. Goblet cell contents in the large intestines
- D. PAS staining in the large intestines

Bars and error bars represent the means  $\pm$  standard deviations ( $n = 10$ ).

<sup>a,b,c</sup> Different superscript letters on the bars indicated a significant difference among the groups

by Tukey test at  $P < 0.05$ .

Fig. S1

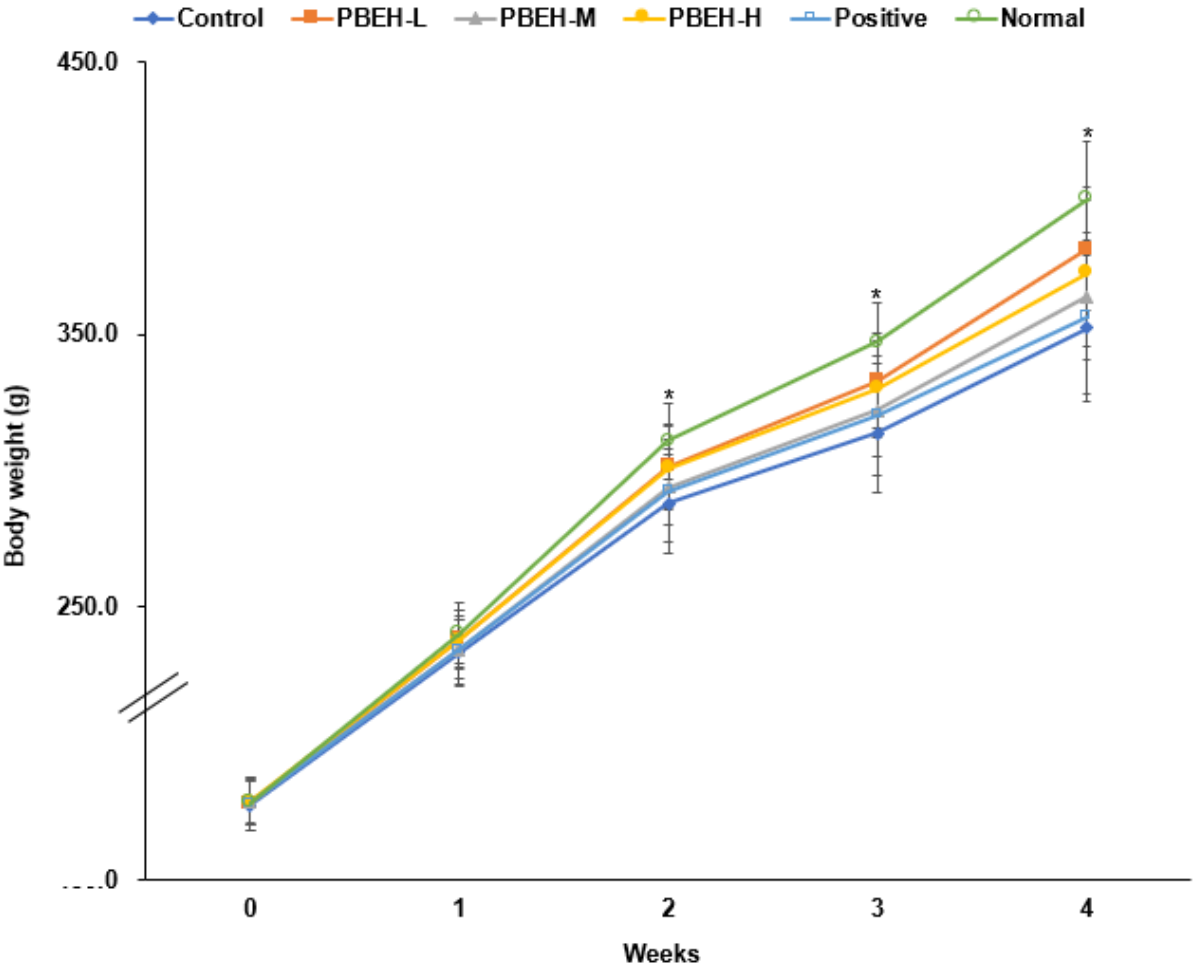


Fig. S2A

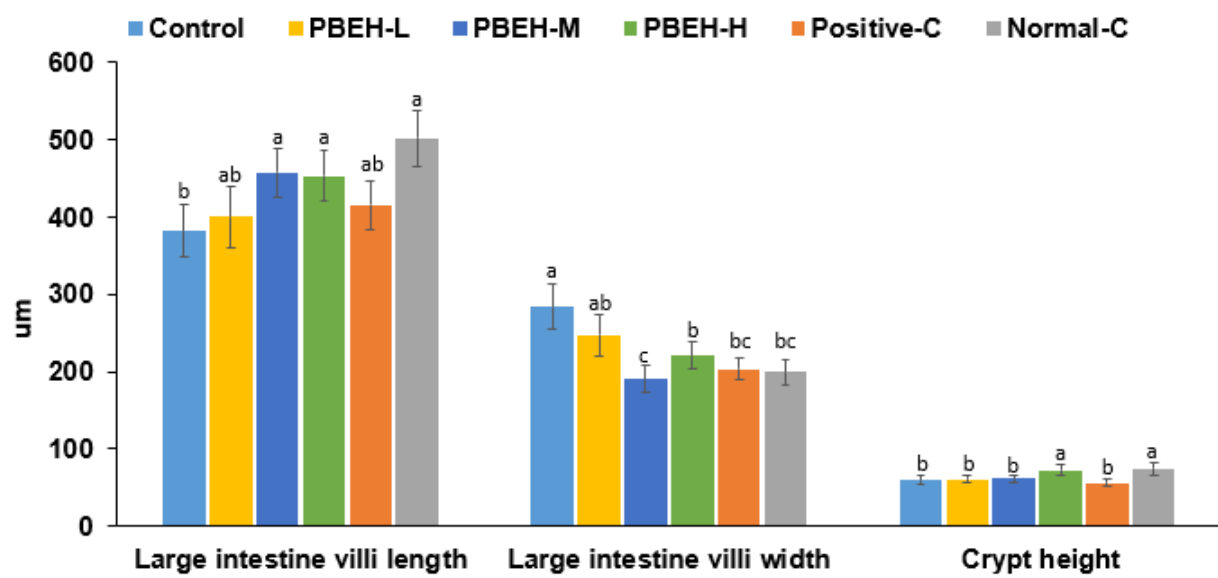


Fig. S2B

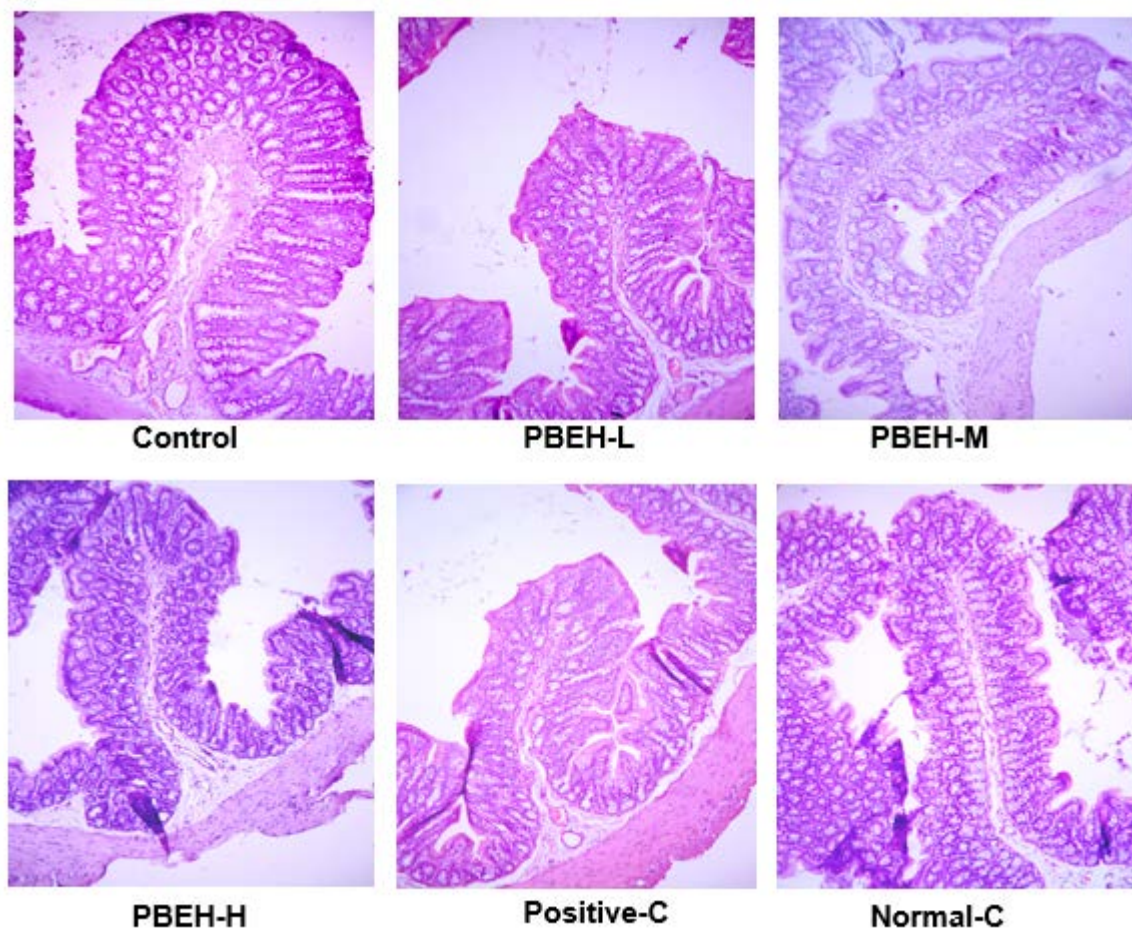


Fig. S2C

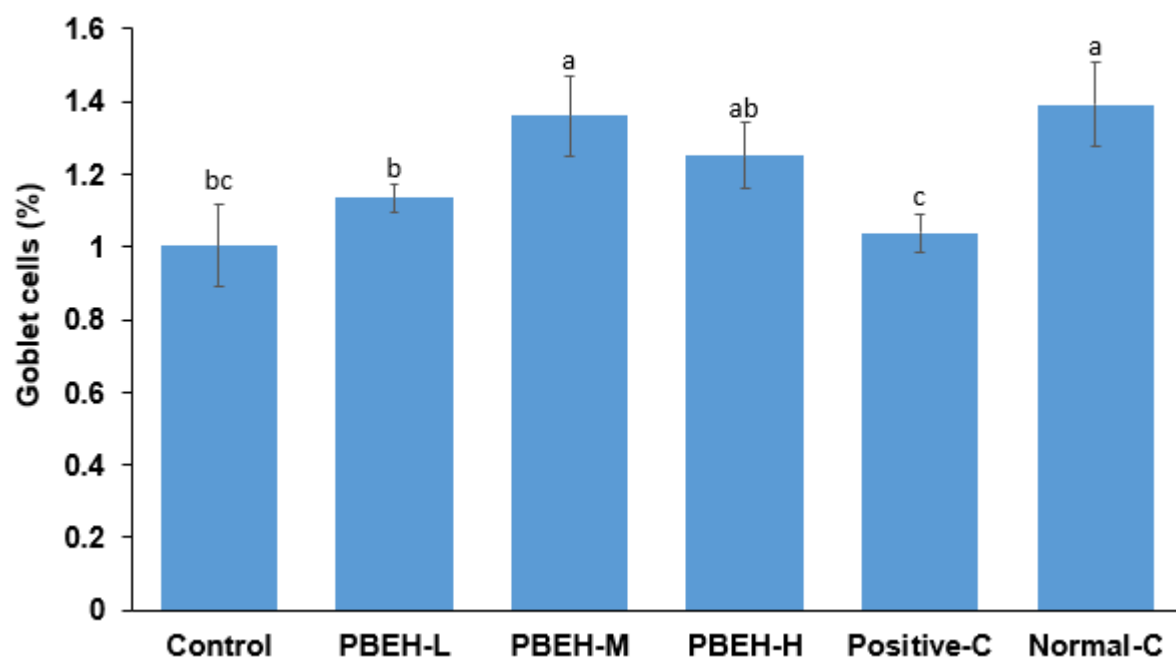


Fig. S2D

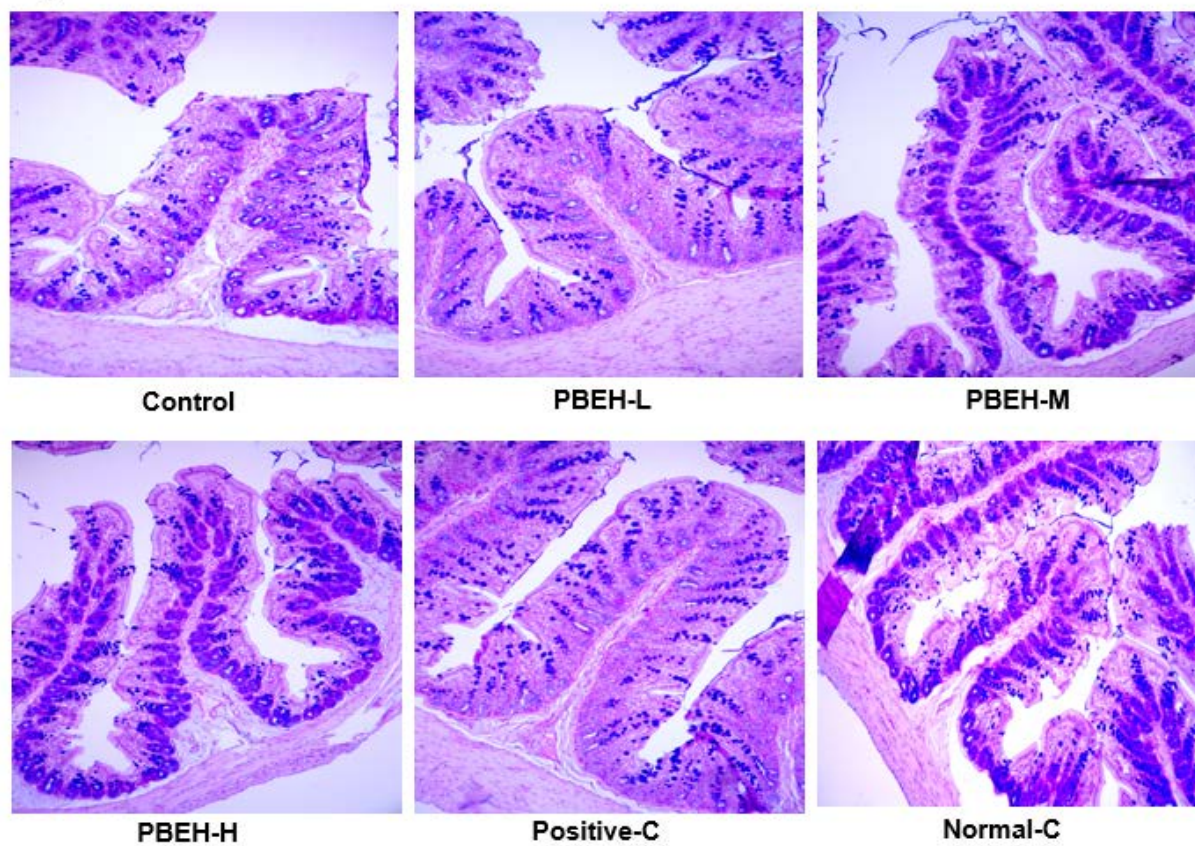


Fig. S3A

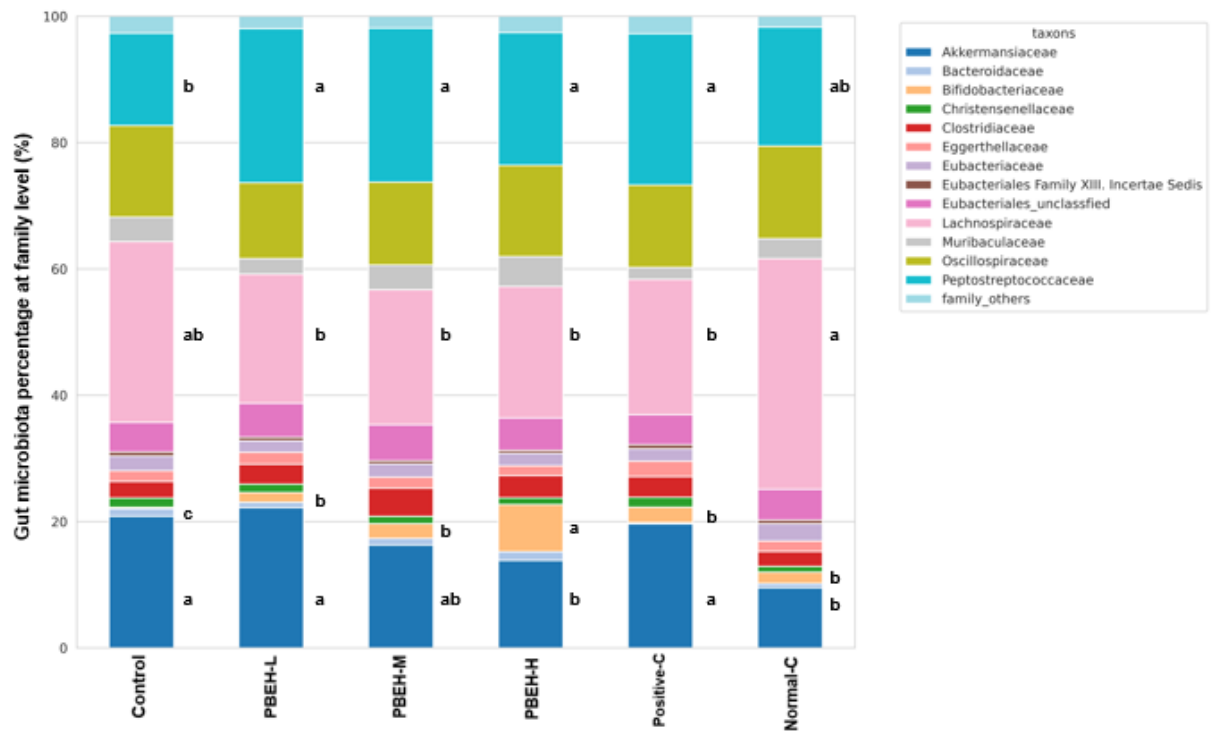
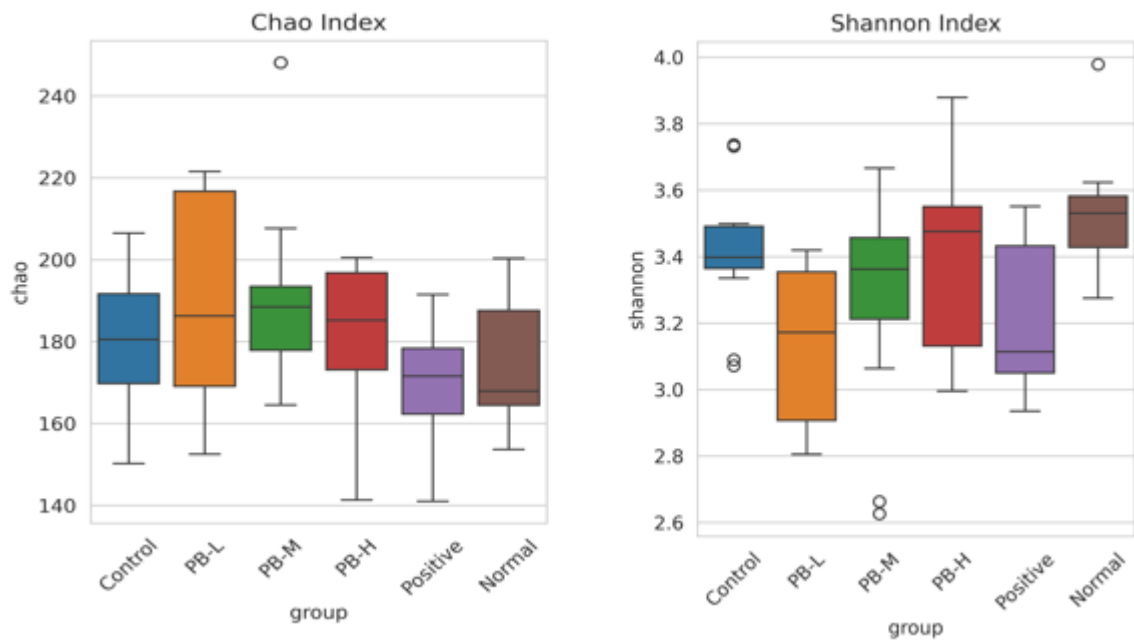


Fig. S3B



Supplementary Table S1. Amino acid composition in porcine brain enzyme hydrolysates

| Amino acids | PBEH (mg/mL) | Amino acids | PBEH (mg/mL) |
|-------------|--------------|-------------|--------------|
| ARG         | 2.37±0.12    | ALA         | 0.65±0.04    |
| LUE         | 2.33±0.063   | SER         | 0.56±0.02    |
| LYS         | 2.15±0.09    | ASP         | 0.49±0.02    |
| PHE         | 1.64±0.03    | PRO         | 0.47±0.03    |
| ILU         | 0.86±0.02    | HIS         | 0.46±0.03    |
| MET         | 0.77±0.04    | TRE         | 0.36±0.01    |
| VAL         | 0.79±0.03    | GLY         | 0.19±0.02    |
| GLU         | 0.68±0.02    |             |              |