

Figure S1. Effect of daily administration of AGE on the mRNA levels of epithelial antimicrobial peptides other than β -defensin 4 in mouse gingiva. ddY mice were orally administrated deionized water (control) or AGE (2 g/kg/day) for 2 weeks. Gingival tissues were analyzed by reverse transcription-quantitative PCR. The graphs show the mRNA levels of (A) *Defb1*, (B) *Defb14* and (C) *Cramp* normalized to those of *Gapdh*. Data are presented as the mean \pm standard deviation (n=6). AGE, aged garlic extract.

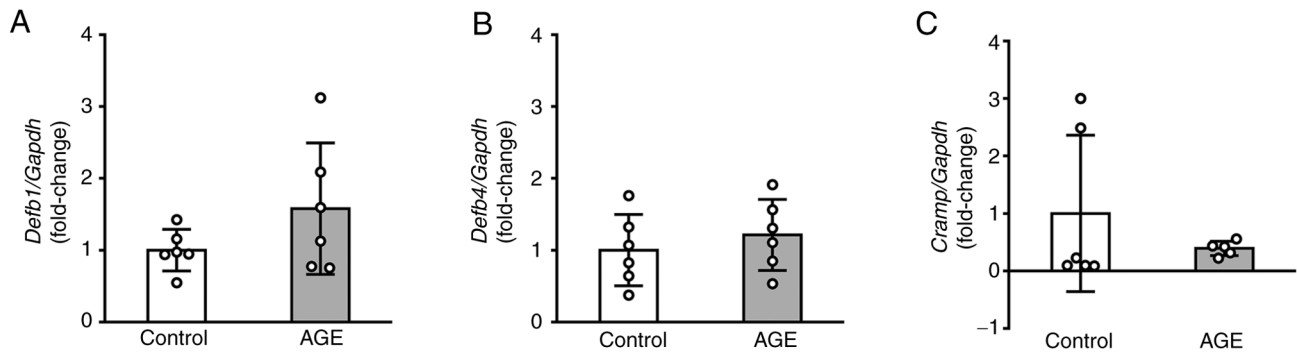
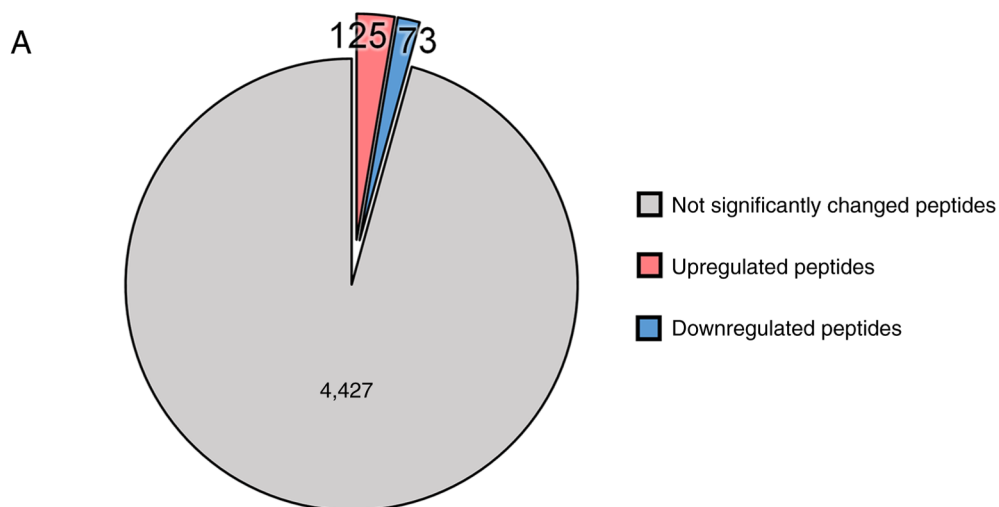


Figure S2. Enrichment analysis of the AGE-induced differentially phosphorylated peptides in mouse gingiva. ddY mice were orally administrated deionized water (control) or AGE (2 g/kg). After 6 h, gingival tissues were analyzed using phosphoproteomics. (A) Pie chart showing the number of differentially phosphorylated peptides in the AGE group compared with the control group. The adjusted P-value threshold was set to <math><0.05</math>. (B) Graphs showing the top 5 enriched Gene Ontology biological process terms for upregulated (left) and downregulated proteins (right). The adjusted P-value threshold was set to <math><0.05</math>. AGE, aged garlic extract.



B

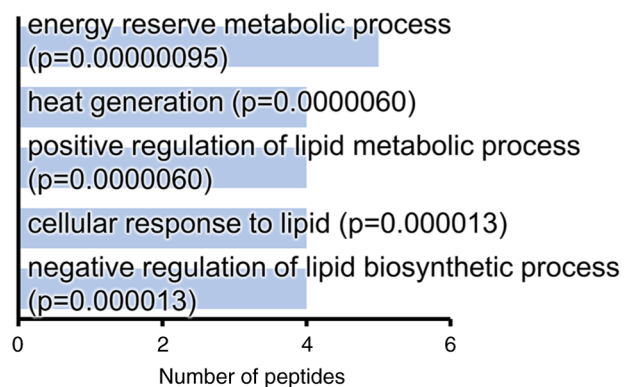
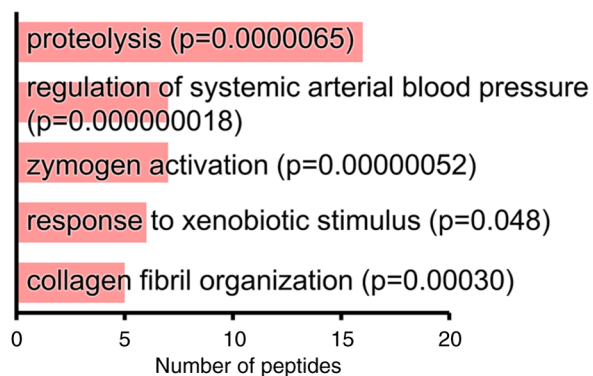


Figure S3. Effect of a GSK-3 inhibitor on β -defensin 4 production in GE1 cells. The cells were treated with BIO, a GSK-3 inhibitor, at the indicated concentrations (0.1-10 μ M) for 24 h. The amount of β -defensin 4 protein secreted into the culture medium was determined using an ELISA. The graph shows the concentration of β -defensin 4 in the medium. Data are presented as the mean \pm standard deviation (n=3). *P<0.05 (Holm-Bonferroni test). BIO, 6-bromoindirubin-3'-oxime; GSK-3, glycogen synthase kinase-3.

