Electronic Supplementary Material (ESI) for Food & Function.

Table S1. The sequence of peptide

Peptide	Sequence
CM4	*RWKIFKKIEKVGQNIRDGIVKAGPAVAVVGQAATI*-COOH
P1 (CM4-MA Ⅱ)	*RWKIFKKI*GIGKFLHSAKKF
P2 (CM4-ME)	*RWKIFKKI*GAVLKVL
P3 (AcNH-CM4)	AcNH-*RWKIFKKIEKVGQNIRDGIVKAGPAVAVVGQAATI*
P4 (KKKKKKCM4)	KKKKKK*RWKIFKKIEKVGQNIRDGIVKAGPAVAVVGQAATI*
CM4N	*RWKIFKKIEKVGQNIRDGIVKAGPAVAVVGQAATI*-$CONH_2$

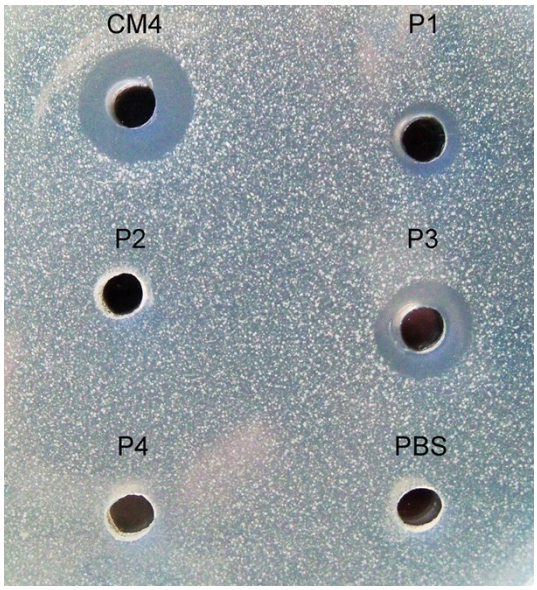

Figure S1. Inhibition zone assay of the bioactivity of ABP-CM4 (16 μM), P1 (32 μM), P2, (32 μM), P3 (32 μM) and P4 (32 μM) in comparison to the control treatment with PBS.

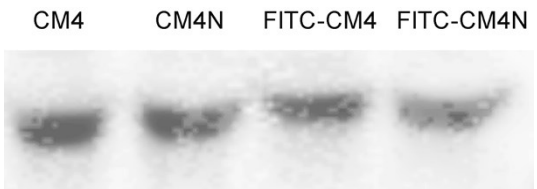

Figure S2. Tricine/SDS–PAGE analysis of ABPs and FITC-ABPs.

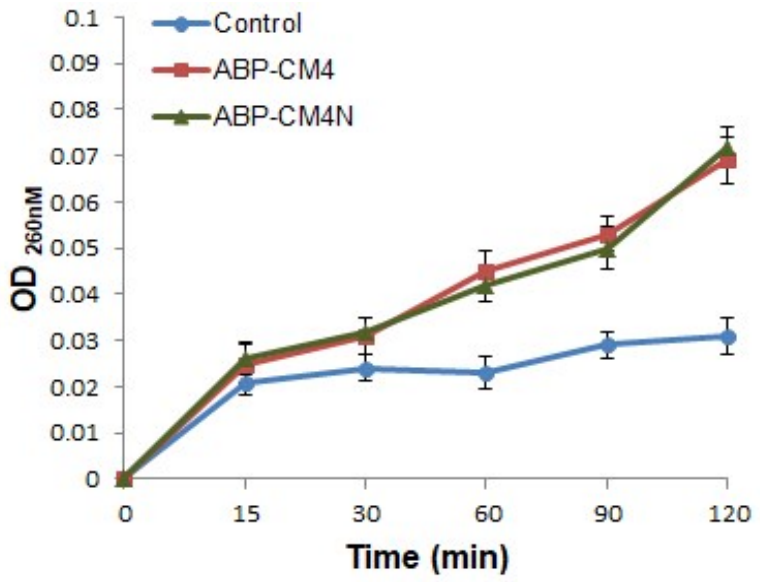

Figure S3. The analysis of total nucleotide leakage caused by ABPs by ultraviolet absorption. The peptides concentration of ABP-CM4 was 16 μM. The peptides concentration of ABP-CM4N was 8 μM. Data points present mean ± SE (n=3) of three independent experiments.

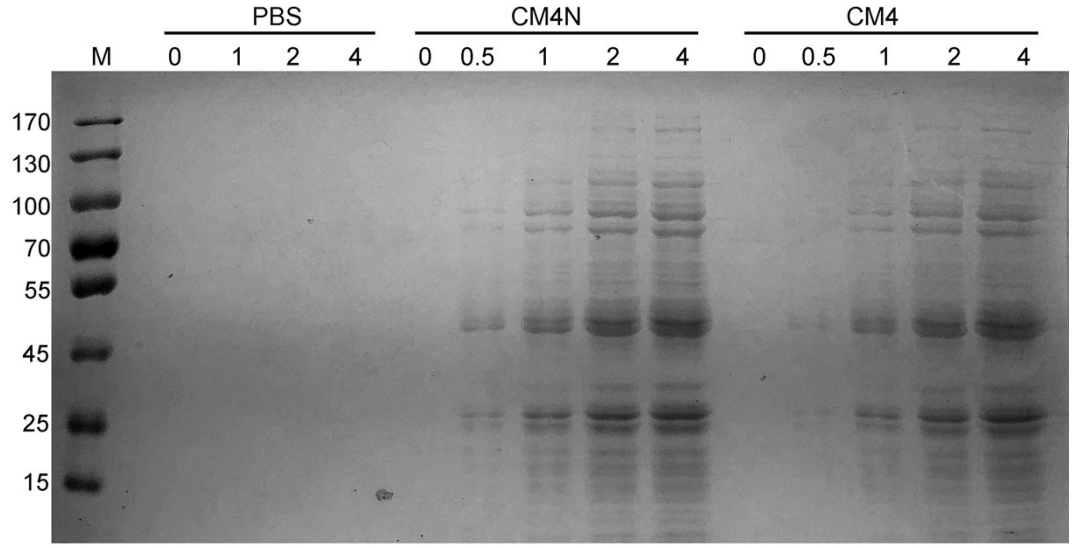

Figure S4. The analysis of total protein leakage caused by ABPs by SDS-PAGE. The peptides concentration of ABP-CM4 was 16 μM. The peptides concentration of ABP-CM4N was 8 μM.

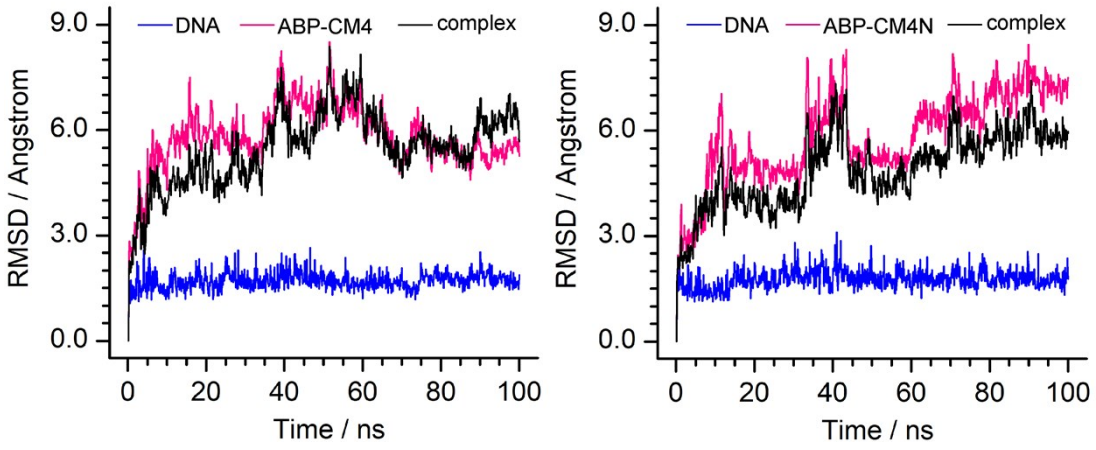

Figure S5. RMSDs of the ABP-CM4–DNA and ABP-CM4N–DNA binding complexes.

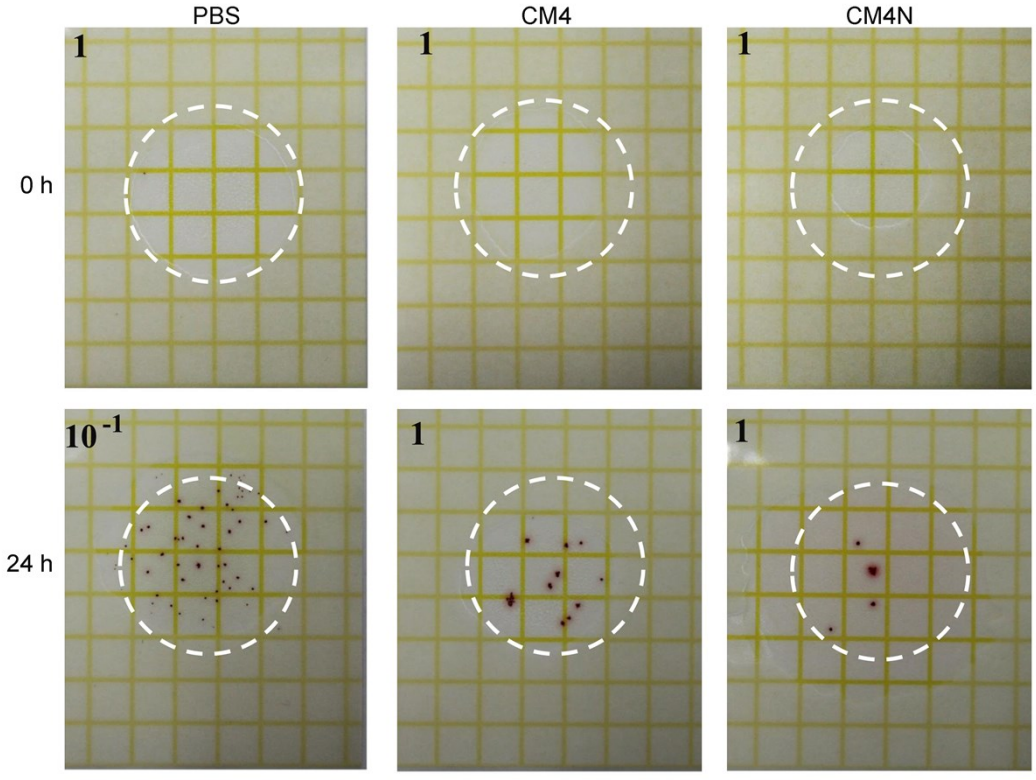

Figure S6. Inhibition of bacteria in meat samples of porks. The peptides concentration of ABP-CM4 or ABP-CM4N was 16 μM. Each value is expressed as the mean ± SE (n=3) of three independent experiments. The average number of positive colonies treated by FITC-CM4 or FITC-CM4N was 26 ± 2 CFU/mL and 14

± 2 CFU/mL ($p < 0.05$). The average number of colonies treated with PBS was 940 ± 9 CFU/mL.

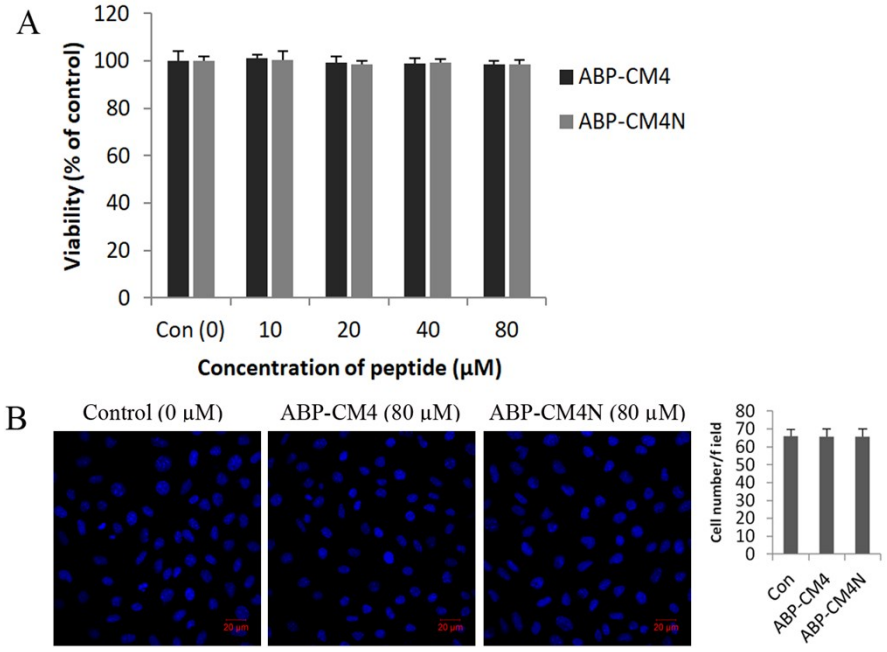

Figure S7. Cytotoxicity assay of ABP-CM4 and ABP-CM4N to HEK-293 cells. Cell viability was measured following a standard MTT assay procedure (A). The mean absorbance of the control values representing 100% cell viability, and the mean absorbance of treated cells was related to control values to determine sensitivity. Data points present mean ± SE (n=3) of three independent experiments. There was no difference in the cell viability compared with the control group. The cell number treated with high concentration peptides (80 μM) was observed by fluorescence microscope (B). The nucleus was stained by DAPI. Data points present mean ± SE (n=10) of ten independent visual field. There was no difference in the number of cells treated with 80 μM peptides compared with the control group.