

Potent Antibacterial Nanoparticles against Biofilm and Intracellular Bacteria

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Bacteria strains	MIC ($\mu\text{g/mL}$)	
	Gentamicin	GPA NPs (Loaded gentamicin amount)
<i>P. aeruginosa</i>	1	32 (1.2)
<i>E. coli O157:H7</i>	2	64 (2.4)
<i>S. typhimurium</i>	2	64 (2.4)
<i>L. monocytogenes</i>	0.5	16 (0.6)
<i>S. aureus</i>	1	32 (1.2)

Table S1. MIC of the gentamicin and GPA NPs against different pathogenic bacteria.

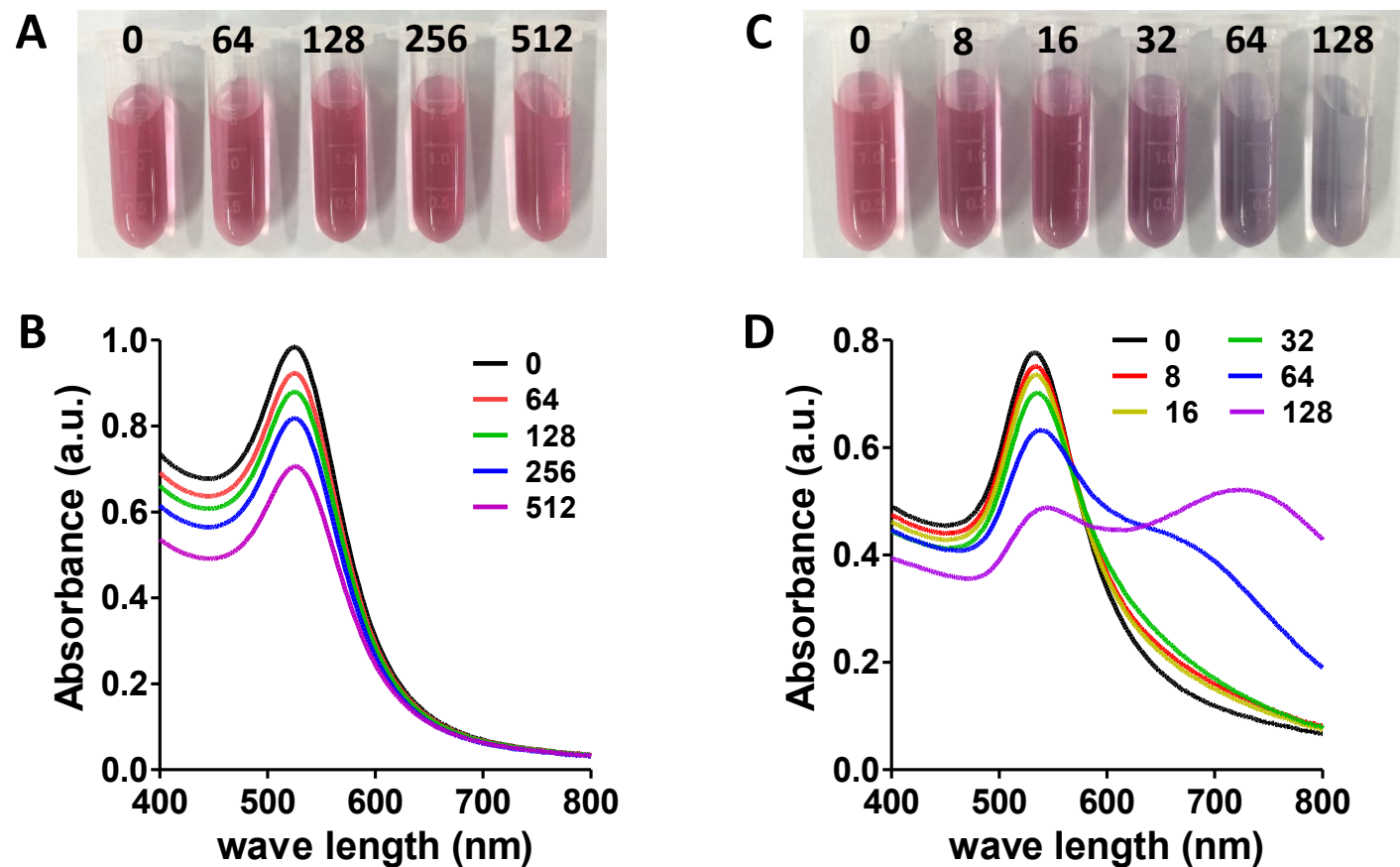


Figure S1. Visual color change of PA NPs upon addition of gentamicin with different volumes (0-512 μL , stock solution 10 mg/mL) (A) and the corresponding extinction spectra (B) ; Visual color change of Au NPs upon addition of gentamicin with different volumes (0-128 μL) (C) and the corresponding extinction spectra (D) .

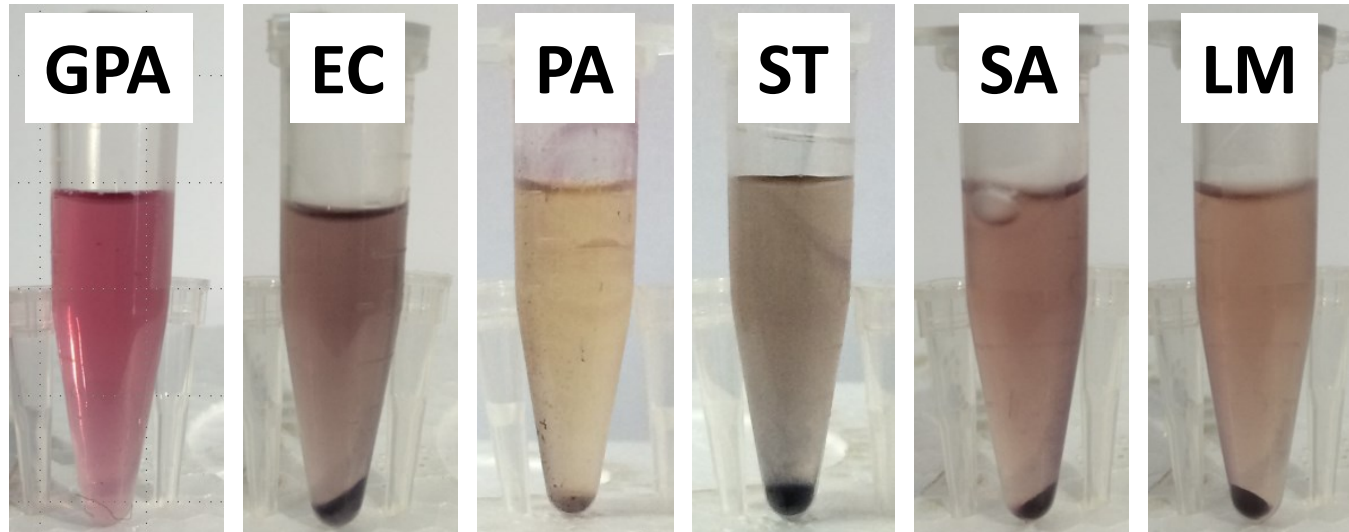


Figure S2. Photographs obtained after vortex mixing GPA NPs alone, and GPA NPs with *E. coli* O157:H7 (EC), *P. aeruginosa* (PA), *S. typhimurium* (ST), *S. aureus* (SA), or *L. monocytogenes* (LM) for 2 h, followed by centrifugation at 3000 rpm for 10 min.

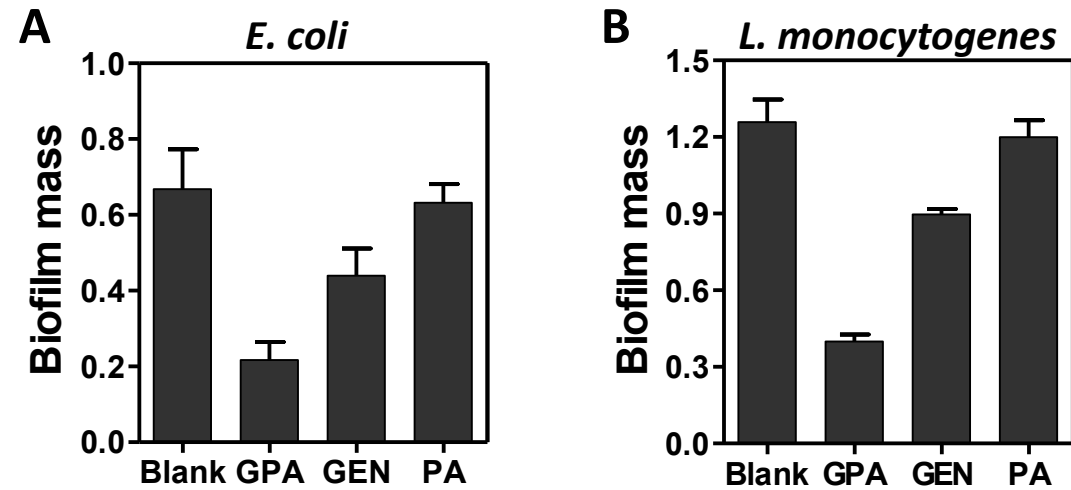


Figure S3. Crystal violet assay to assess the antibiofilm activity of samples against *E. coli* biofilm (A) and *L. monocytogenes* biofilm (B).

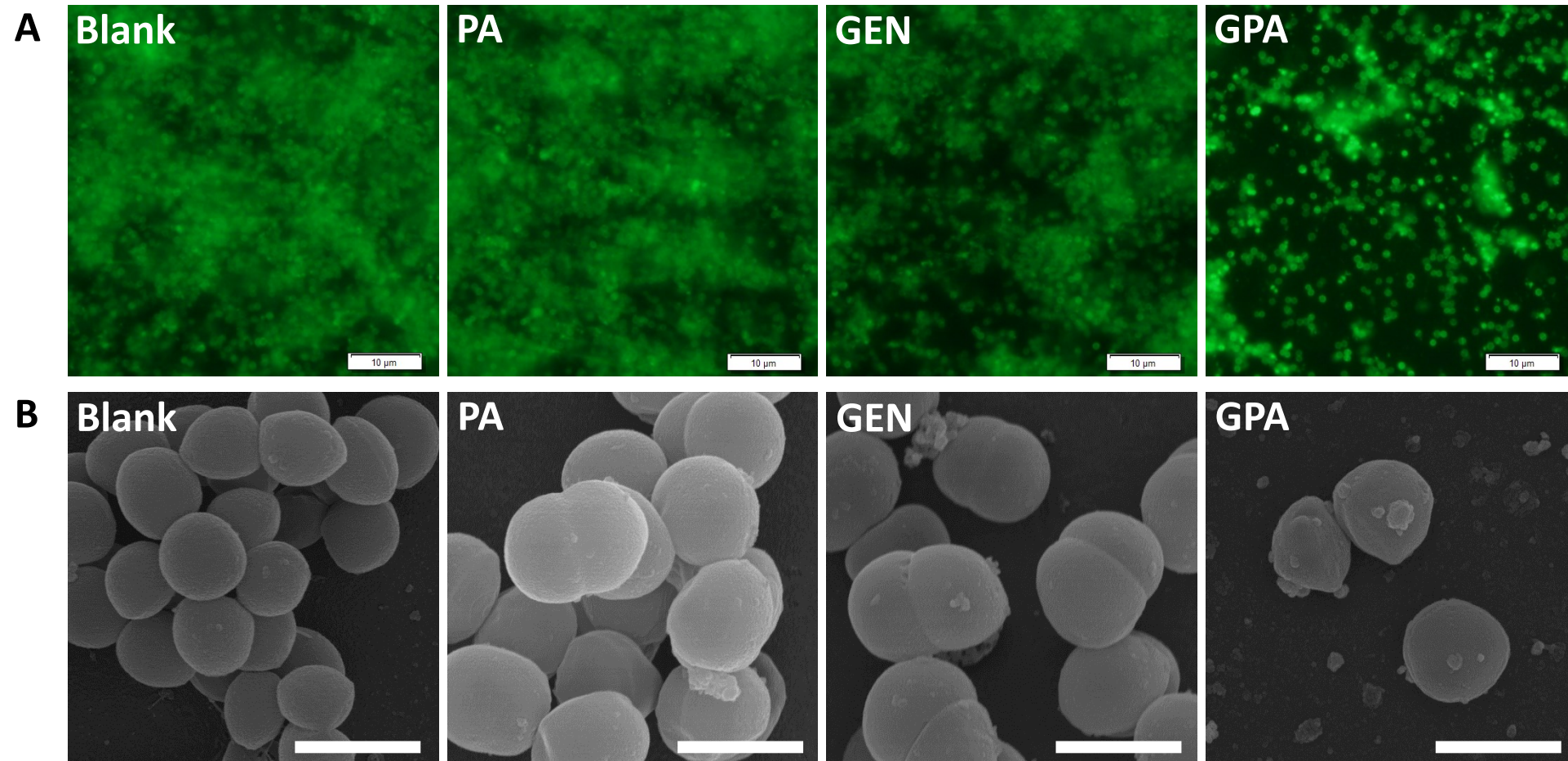


Figure S4. Fluorescence images (A) and SEM images (B) of *S. aureus* biofilm. Scale bar for SEM and fluorescence images are 1 μm and 10 μm , respectively.

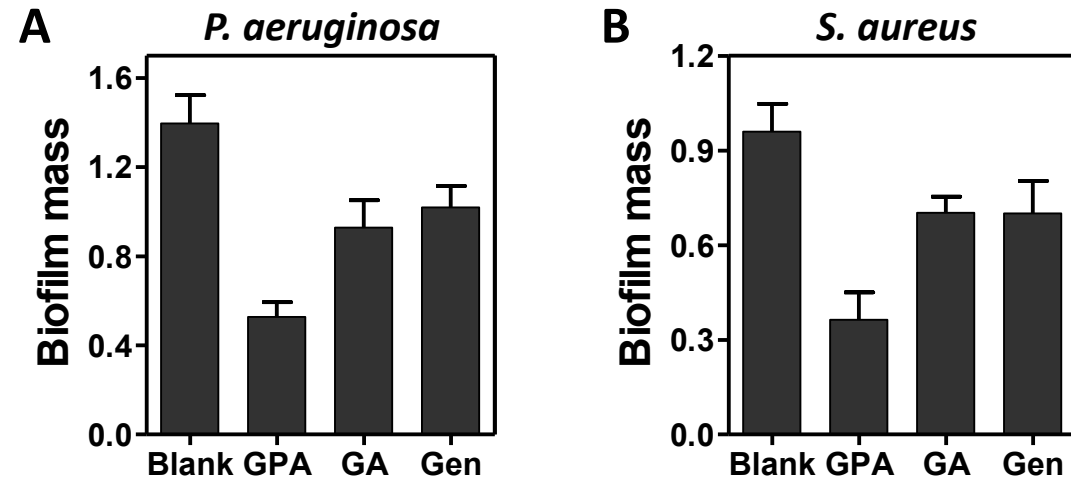


Figure S5. Crystal violet assay to assess the antibiofilm activity of samples against *P. aeruginosa* biofilm (A) and *S. aureus* biofilm (B).

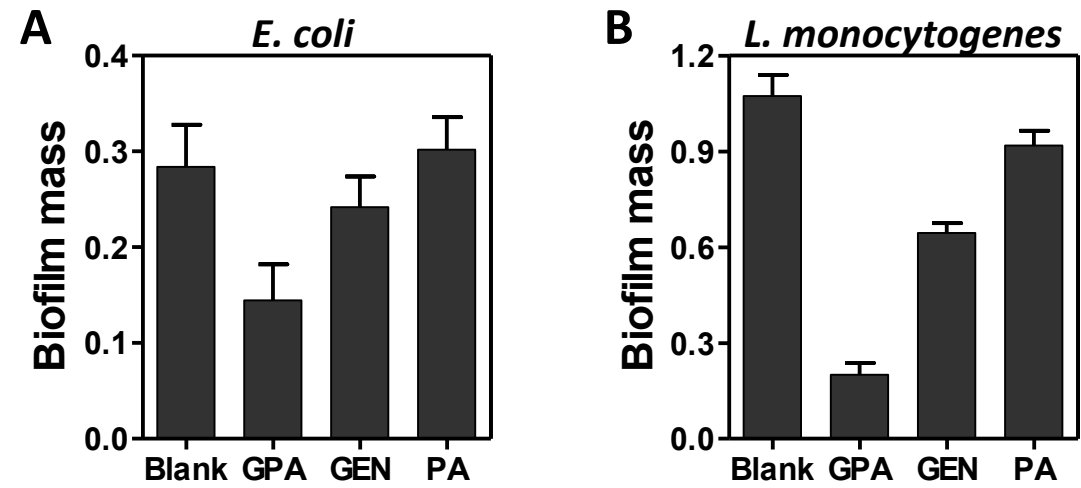


Figure S6. The inhibitory effects of samples on *E. coli* (A) and *L. monocytogenes* (B) biofilm formation.

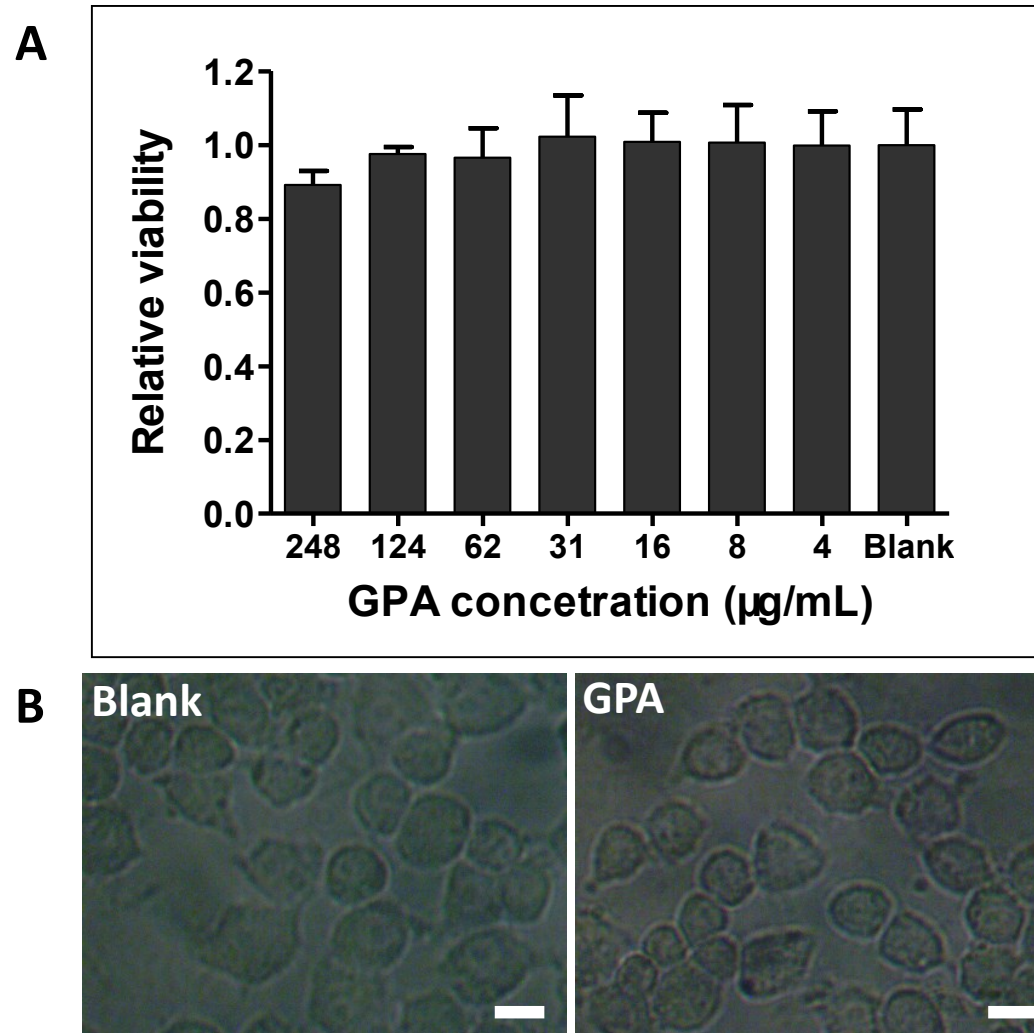


Figure S7. (A) Cell viability treated with different concentrations of GPA NPs; (B) cell morphologies after 6 h culture with 124 $\mu\text{g/mL}$ GPA NPs. Scale bar represented 10 μm .

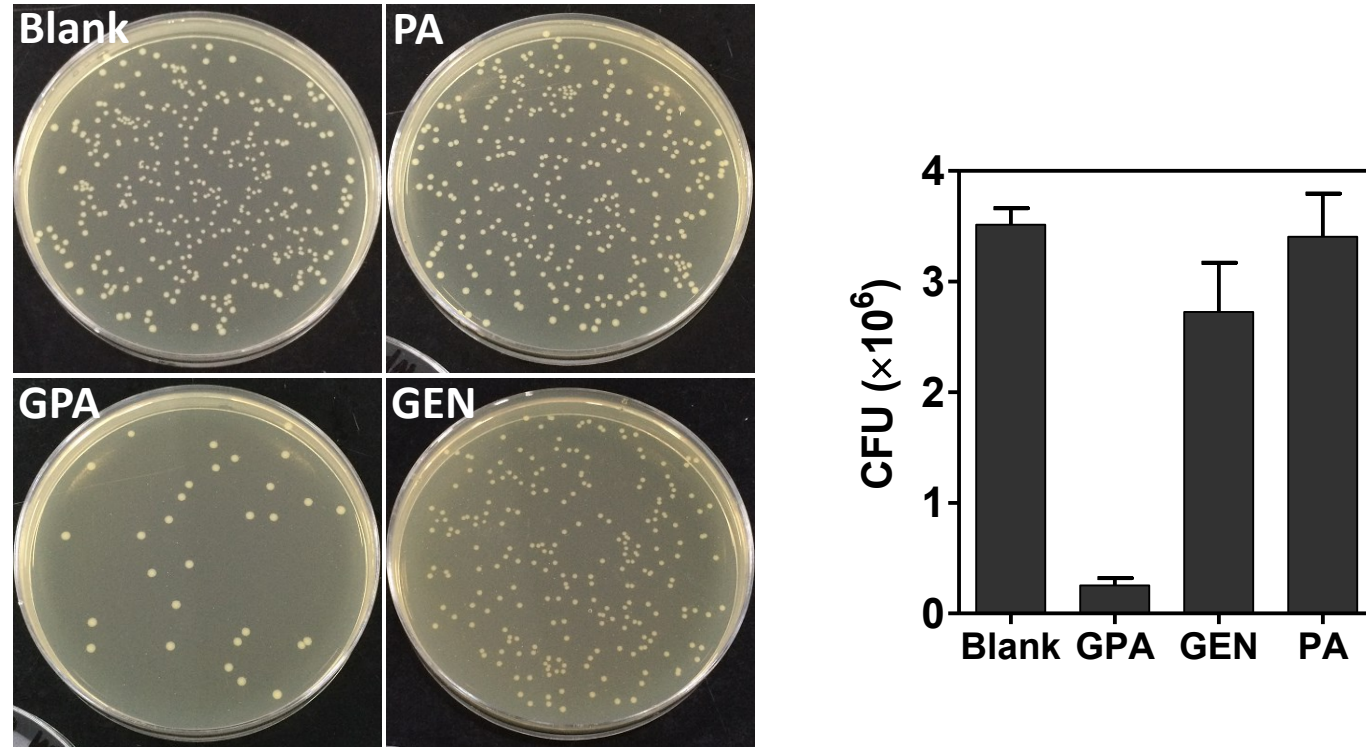


Figure S8. The colony-forming units of *L. monocytogenes* infected macrophage cells treated with different samples.