Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Supporting Information

Skin-Like Wound Dressings with On-demand Administration Based on *in Situ* Peptide Self-Assembly for Skin Regeneration

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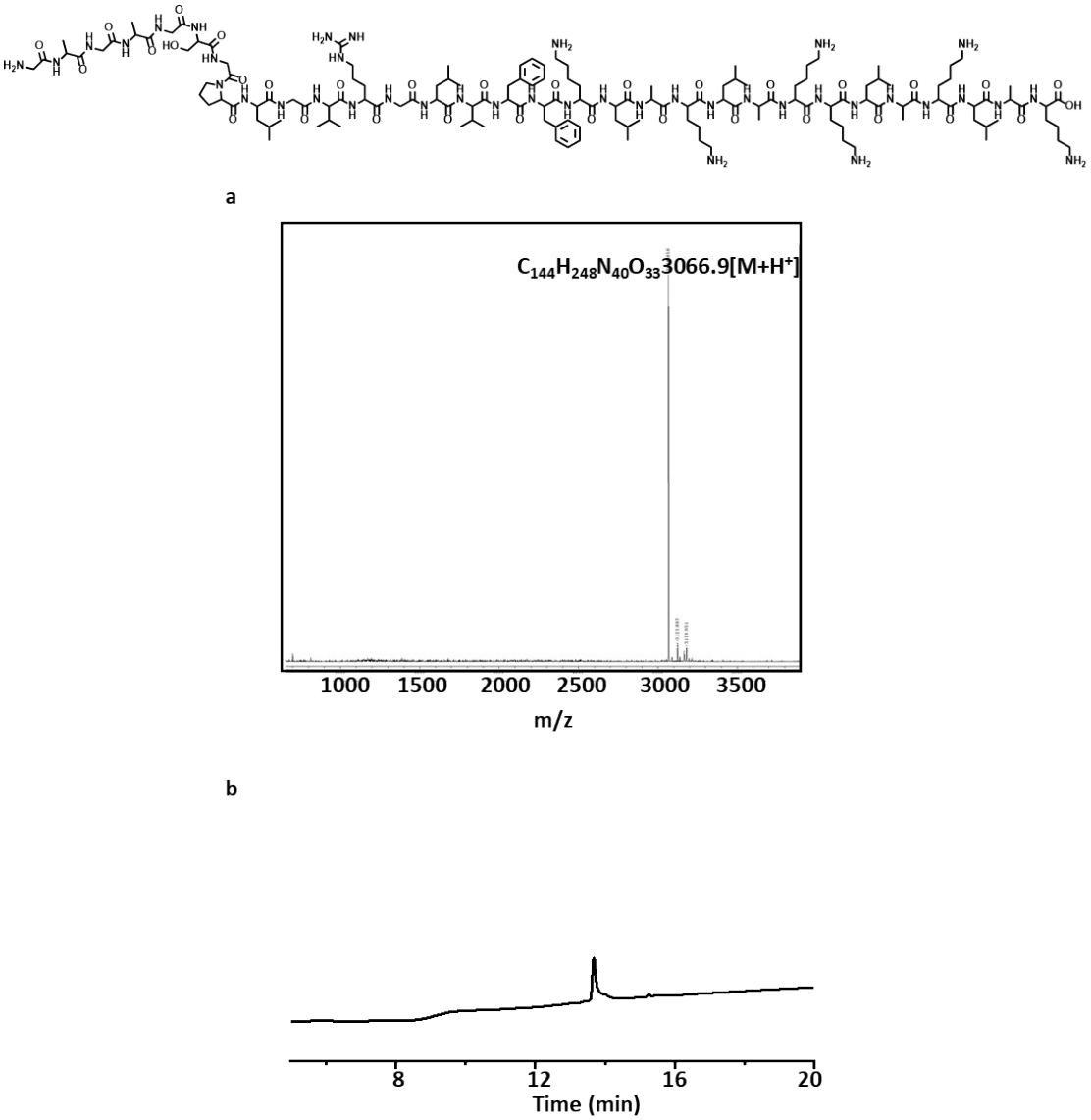


Fig. S1. a) The chemical structure and MALDI-TOF-MS spectrum of GPLK. b) HPLC spectrum of GPLK.

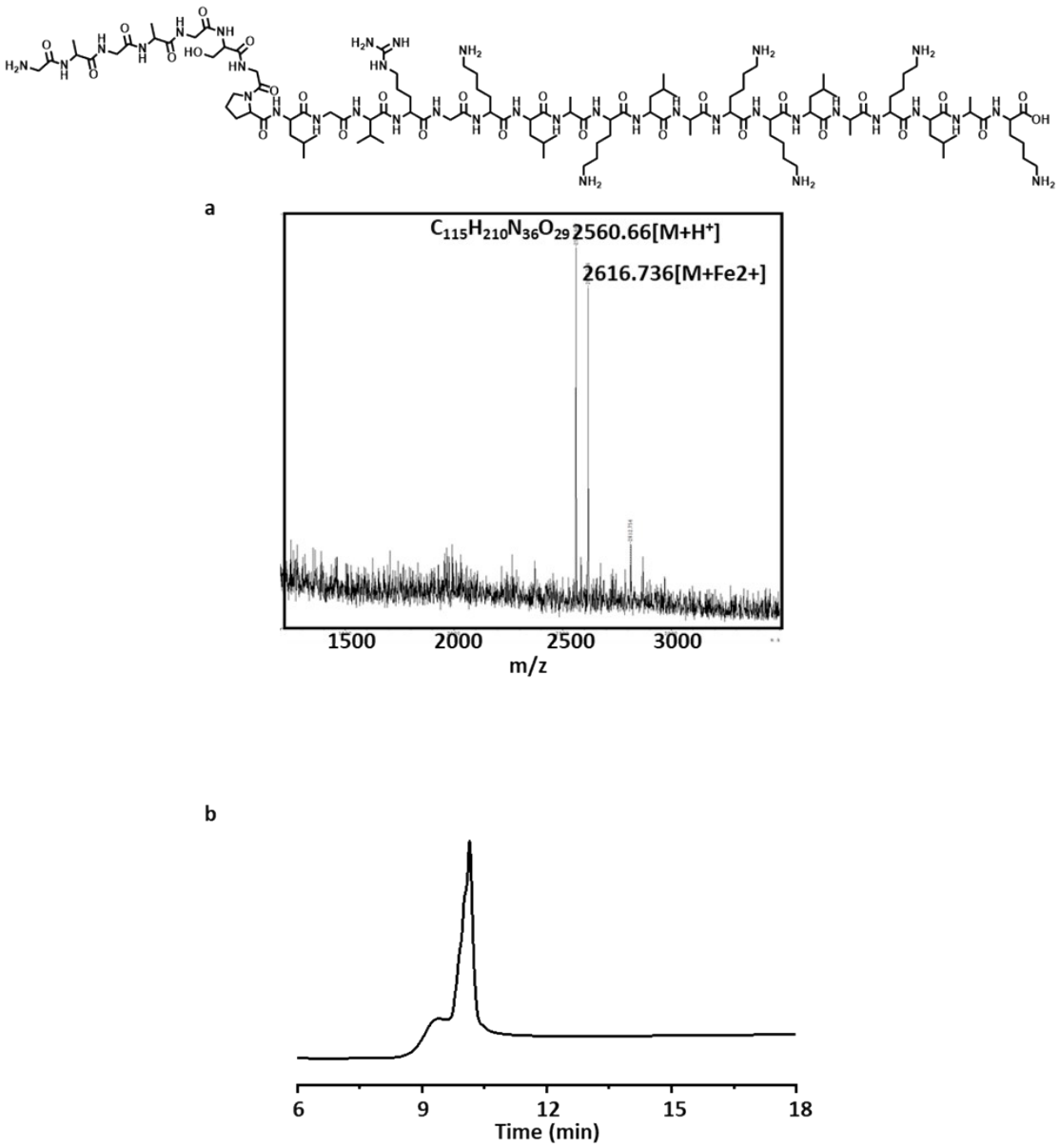
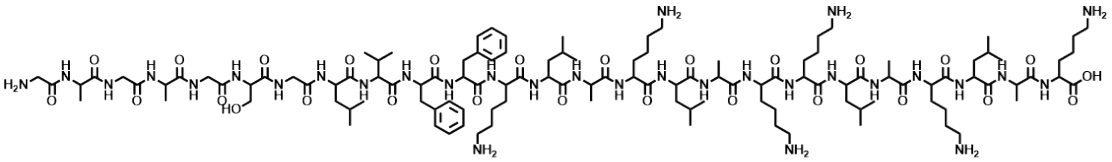
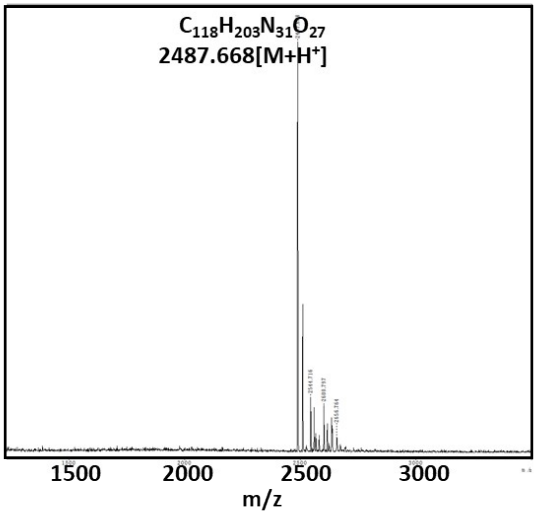


Fig. S2. a) The chemical structure and MALDI-TOF-MS spectrum of GPK. b) HPLC spectrum of GPK.



a



b

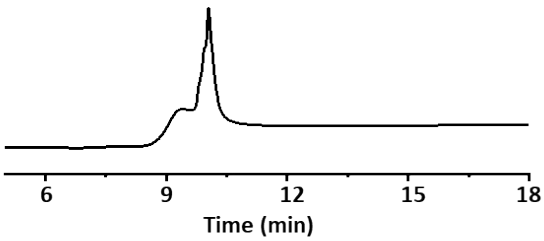


Fig. S3. a) The chemical structure and MALDI-TOF-MS spectrum of GLK. b) HPLC spectrum of GLK.

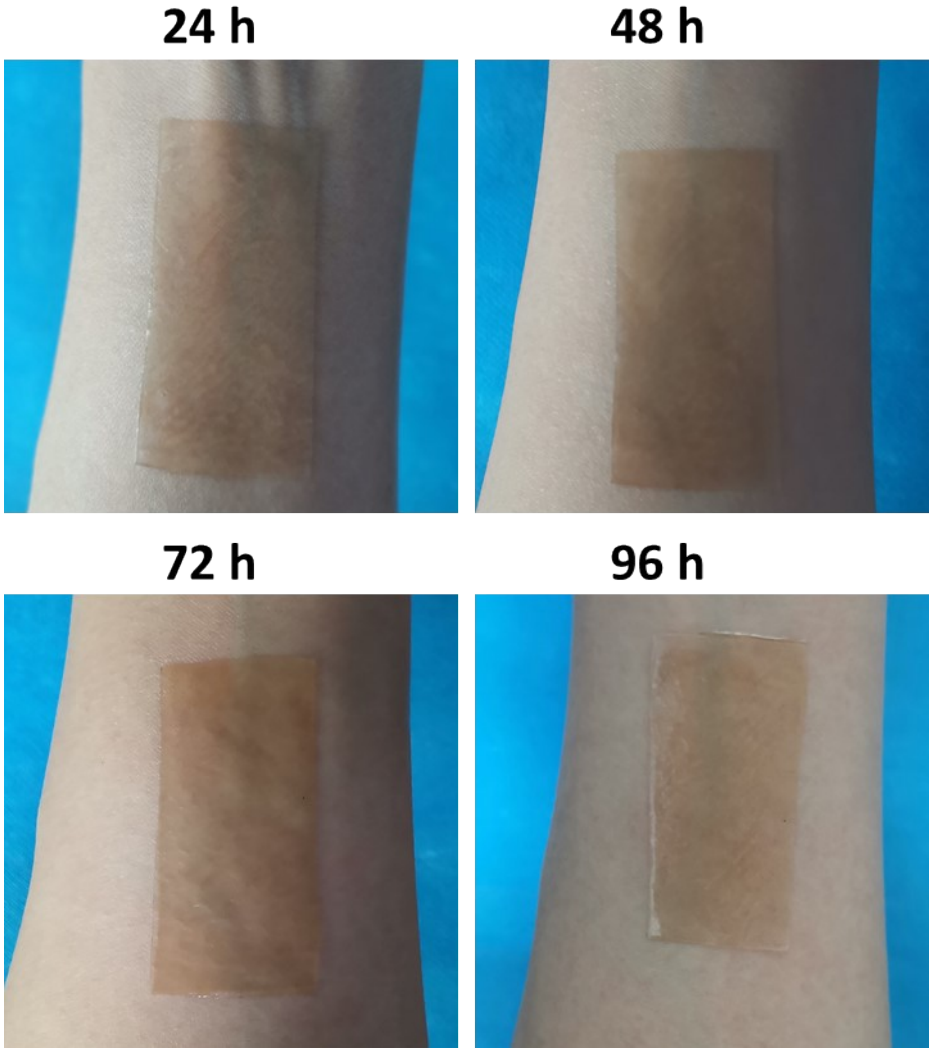


Fig. S4. The SF-GPLK film was preserved in atmospheric moisture.

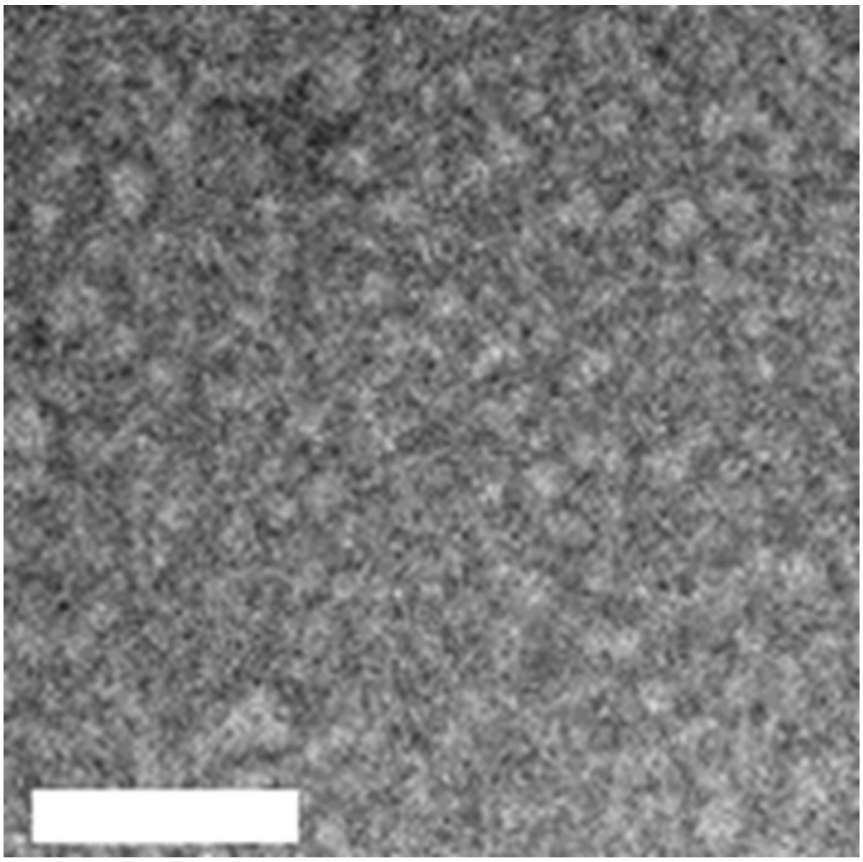


Fig. S5. TEM image of SF-GPK immersed in Tris·HCl buffer solution (pH 7.4) the addition of gelatinase for 6 h. Scale bars, 0.1μm.

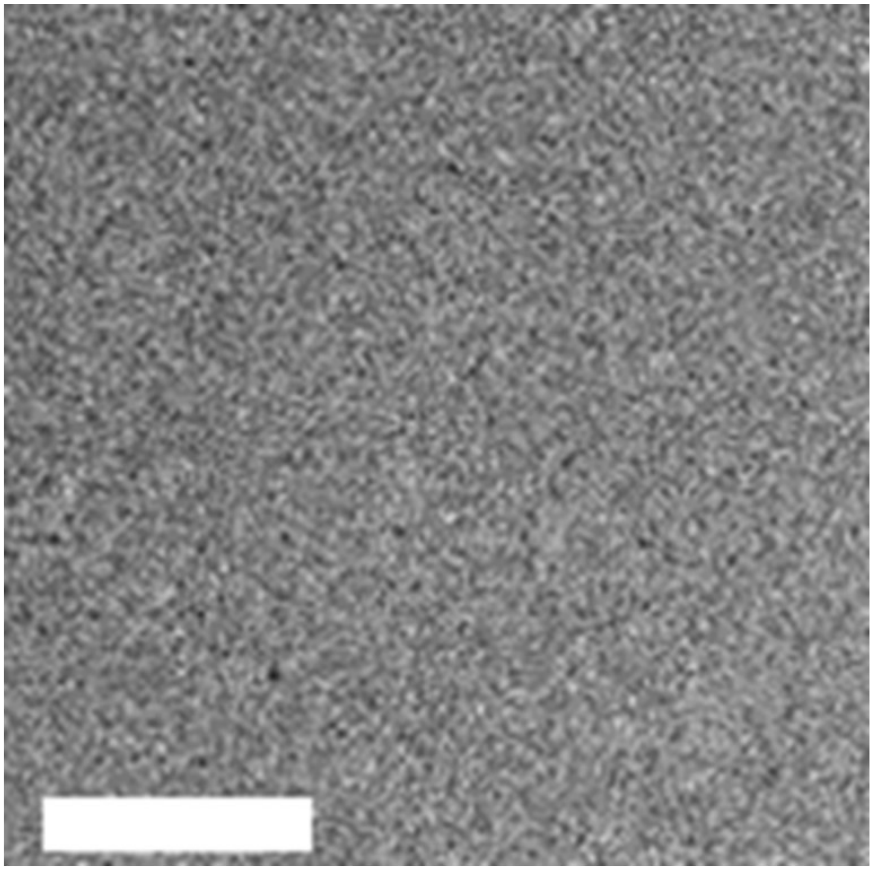


Fig. S6. TEM image of SF-GLK immersed in Tris·HCl buffer solution (pH 7.4) the addition of gelatinase for 6 h. Scale bars, 0.2μm.

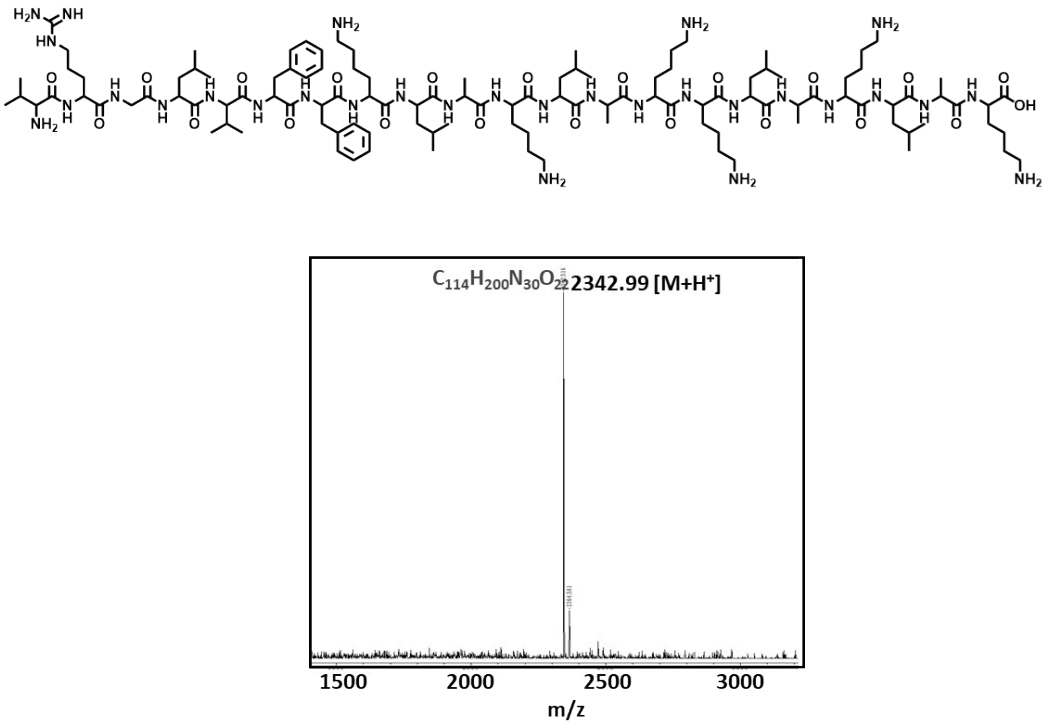


Fig. S7. The chemical structure and MALDI-TOF-MS spectrum of LK.

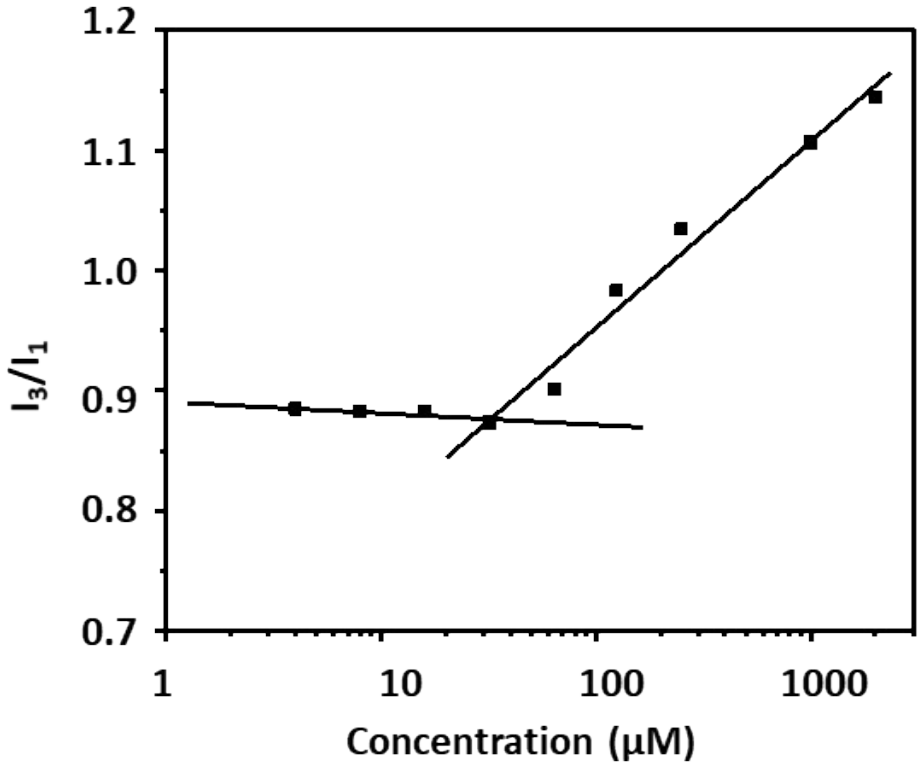


Fig. S8. CACs for LK in solution.

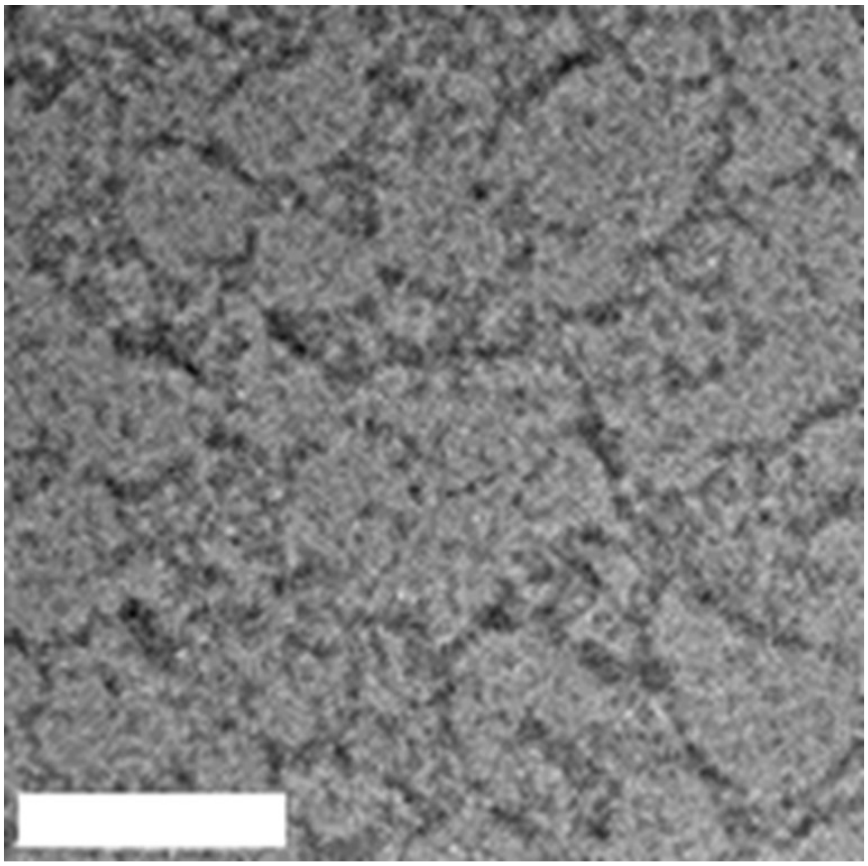


Fig. S9. TEM image of LK (200 μM). Scale bars, 0.2 μm.

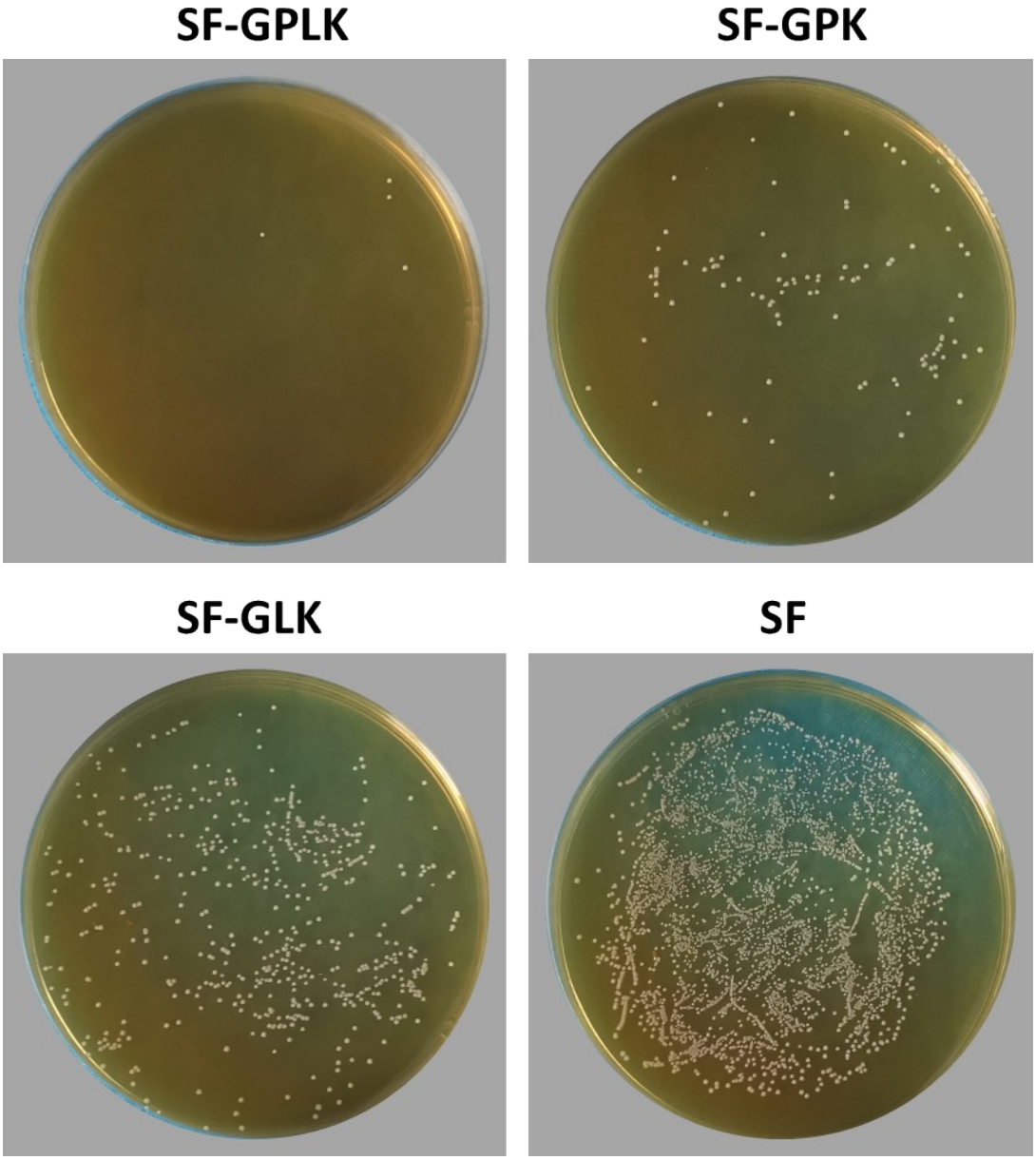


Fig. S10. The picture of bacteria counting colony-forming units treated by SF-GPLK, SF-GPK, SF-GLK and SF group.

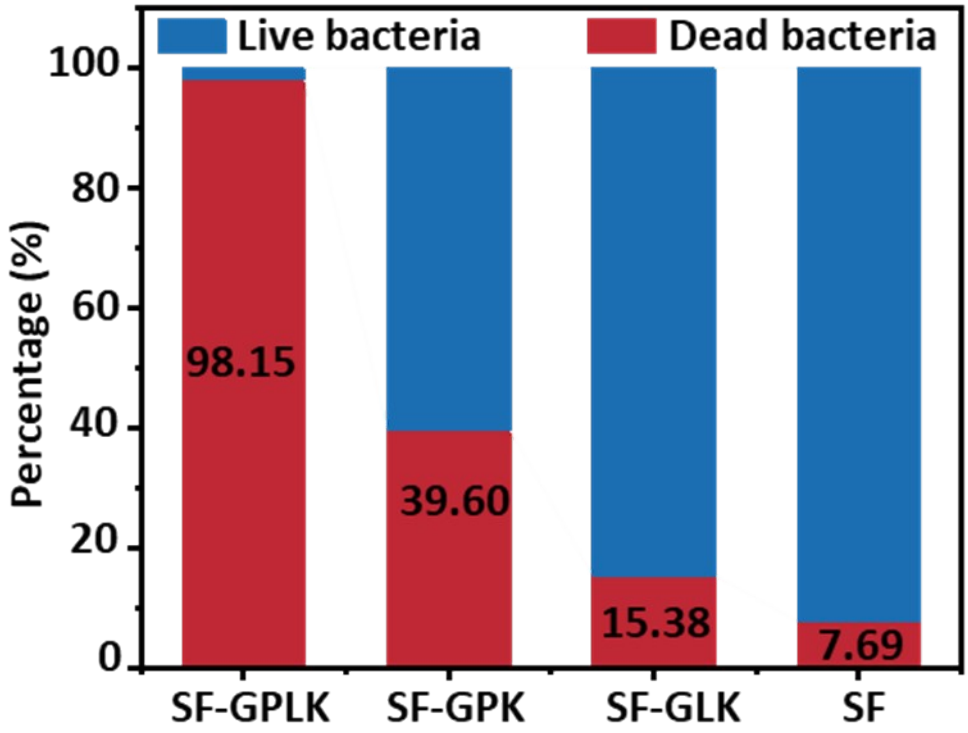


Fig. S11. *S. aureus* quantitative analysis of live/dead staining in Fig 3d.

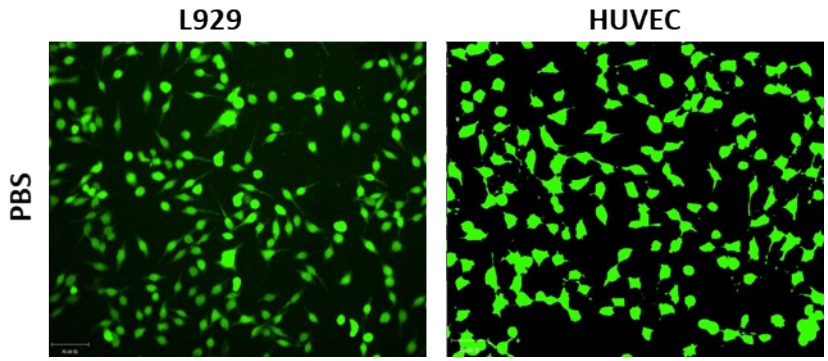


Fig. S12. Live/dead staining of L929 and HUVEC cells after incubation in PBS for 6 h.

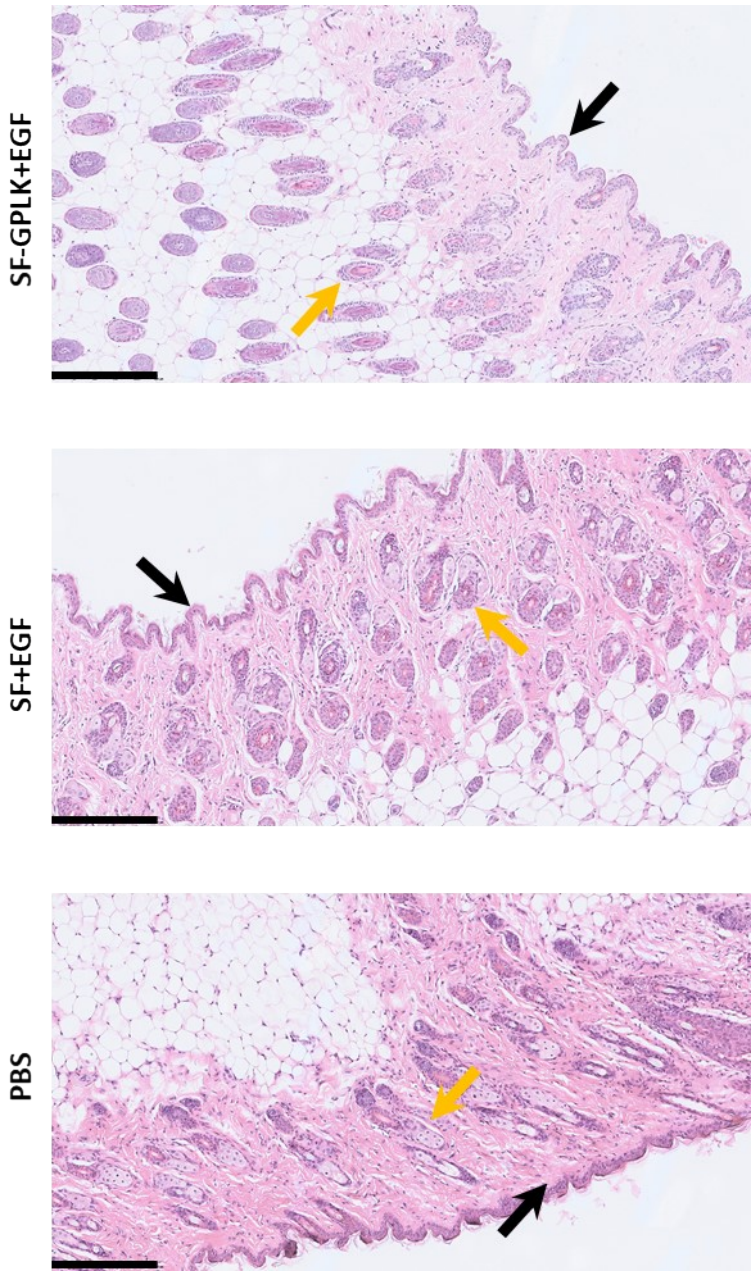


Fig. S13. H&E staining on day 15 of the newly regenerated skin tissues in uninfected wound. Scale bar: 250 μm. (Black arrows: epidermal scaly skin, yellow arrows: hair follicle, red arrows: inflammatory cells.)

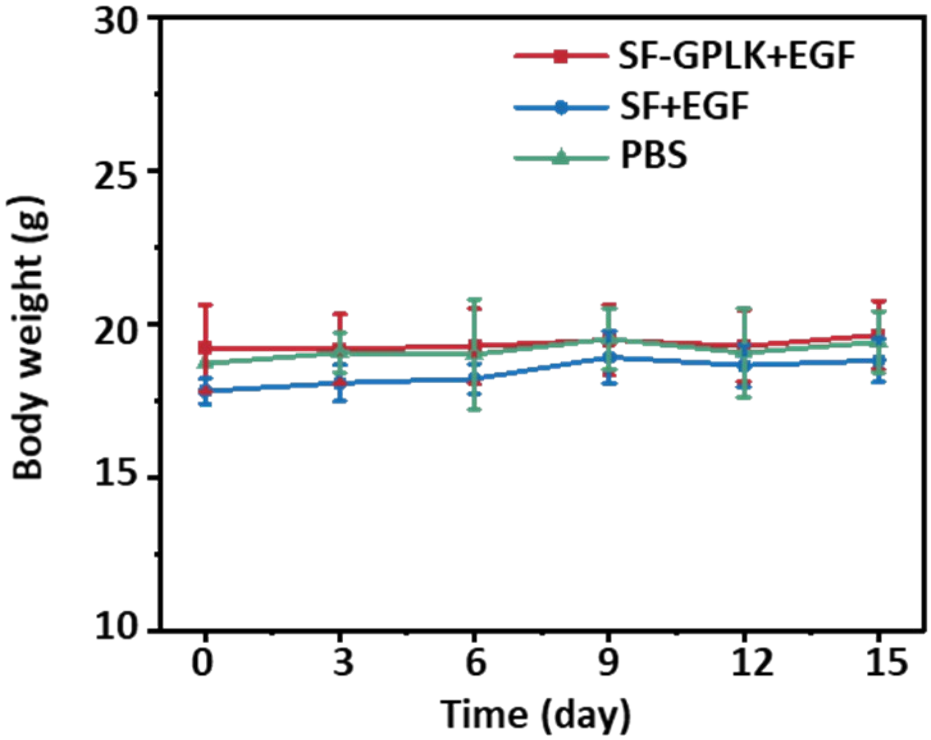


Fig. S14. Body weight changes of uninfected mice during the treatment.

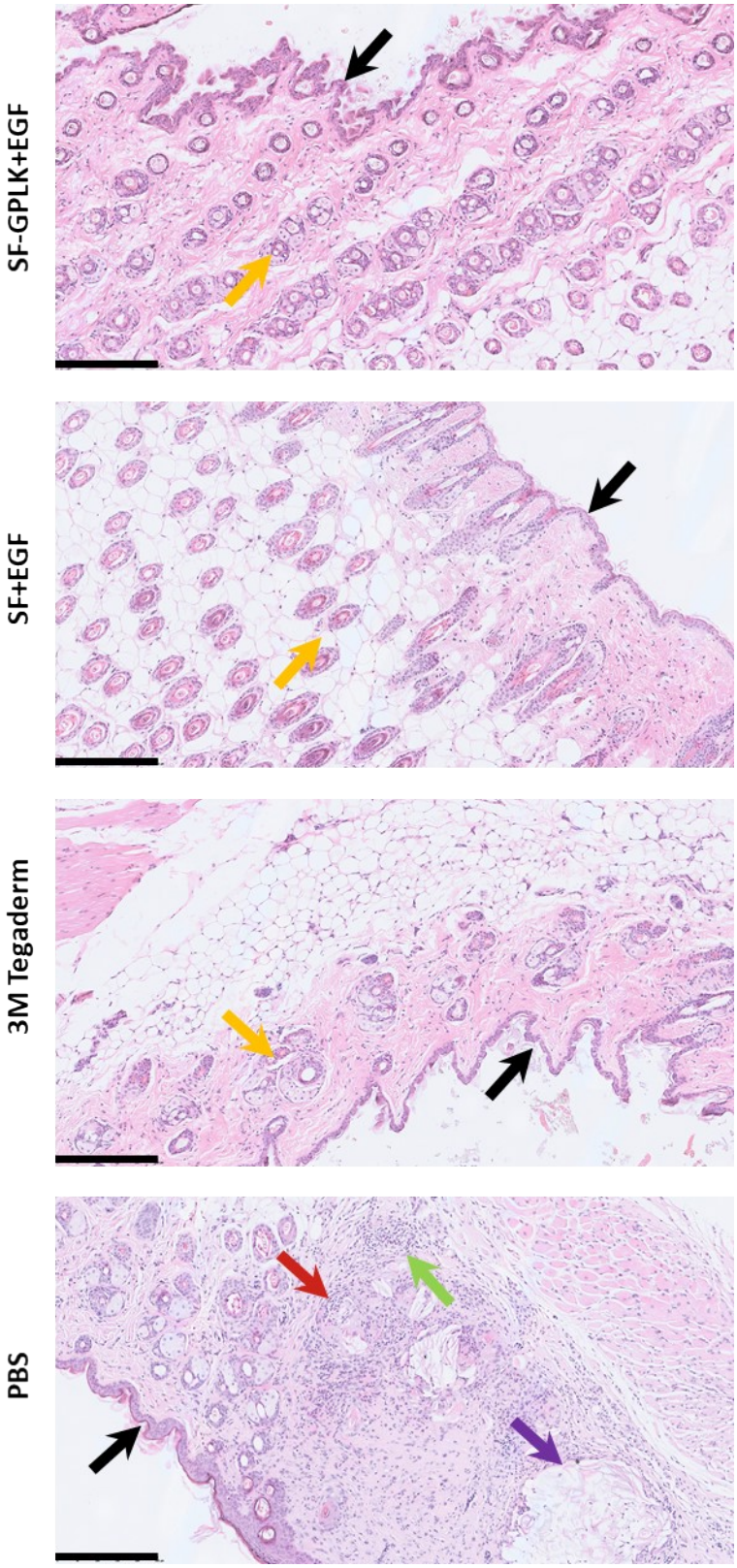


Fig. S15. H&E staining on day 15 of the newly regenerated skin tissues in infected wound. Scale bar: 250 μm. (Black arrows: epidermal scaly skin, yellow arrows: hair follicle, red arrows: inflammatory cells, green arrows: new capillary, purple arrows: cornification).

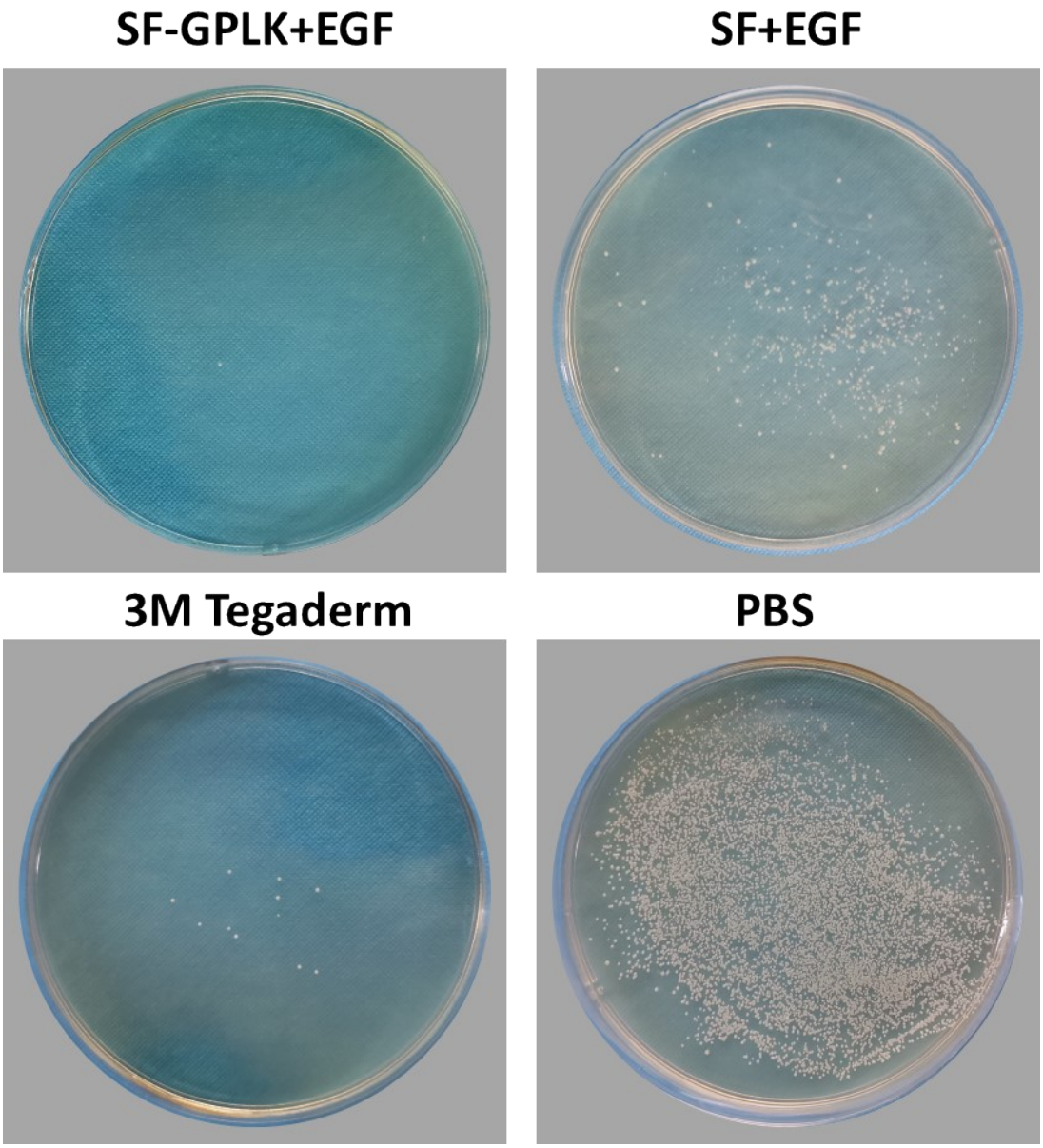


Fig. S16. The picture of colony-forming units of bacteria from mice tissue on day 6 treated by SF-GPLK+EGF, SF+EGF, 3M Tegaderm and PBS group.

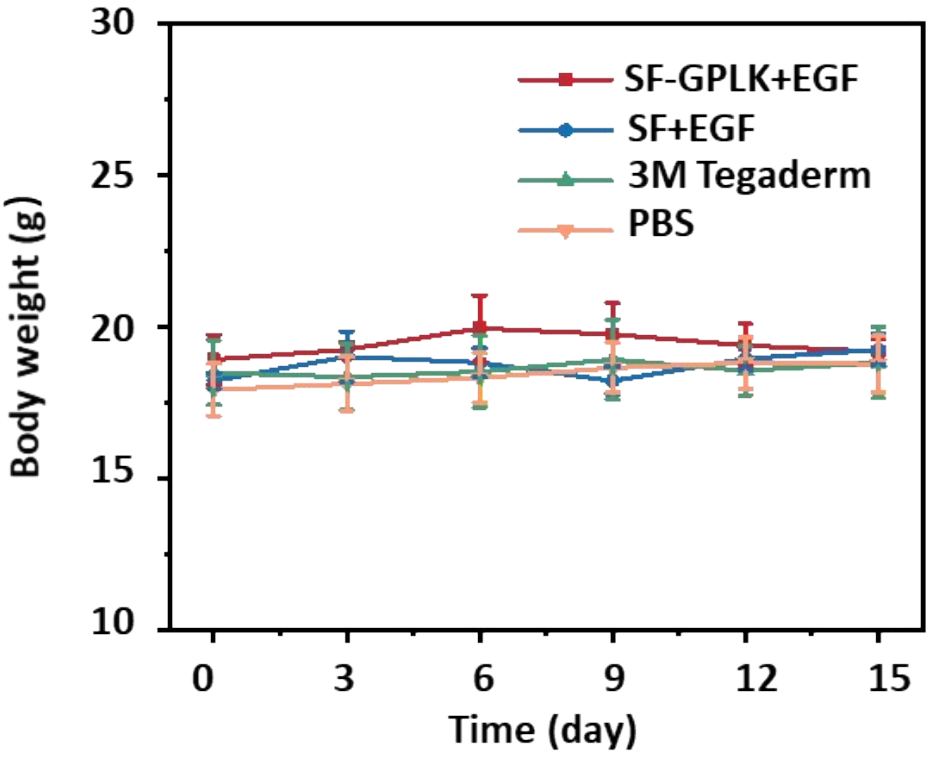


Fig. S17. Body weight changes of infected mice during the treatment.