

**Enhanced Healing Activity of Burn Wound Infection by Dextran-HA Hydrogel Enriched  
with Sanguinarine**

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**Figure Captions:**

**Figure S1.** FTIR spectra of different components.

**Figure S2.** Water retention capability of swollen Dex-HA hydrogel at room temperatures. (mean  $\pm$  SD, n=3.).

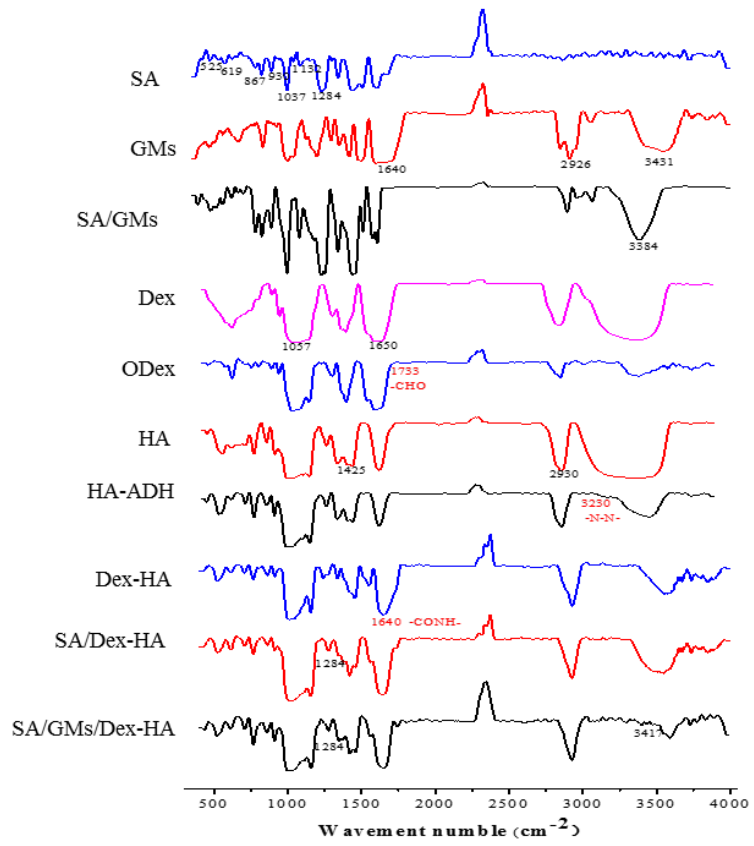
**Figure S3.** Standard curve of *Sanguinarine* (SA) by an ultraviolet/visible (UV/Vis) spectrophotometer. The absorbance wavelength was 248 nm.

**Figure S4.** Photographic images of dynamic antimicrobial properties of (a) blank control, (b) Dex-HA hydrogel, (c) Commercial Biatain<sup>®</sup> Alginate Ag wonder dressing, (d) SA/Dex-HA hydrogel and (e) SA/GMs/Dex-HA hydrogel against to *E. coli* of (A) and MRSA of (B).

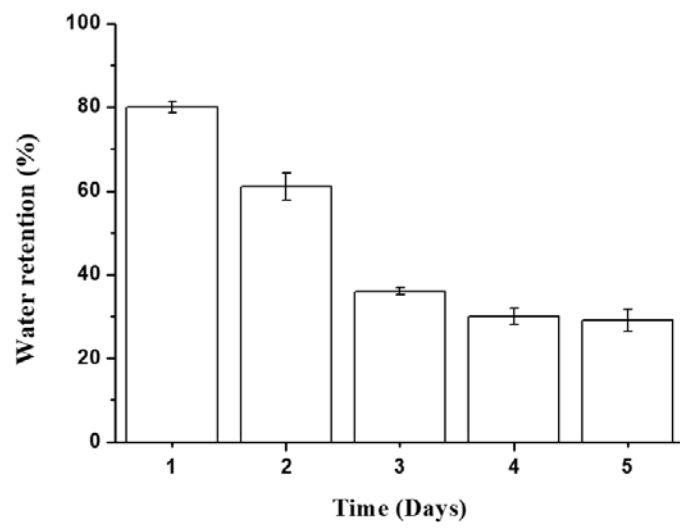
**Figure S5.** Animal model of a rat full-thickness burn infection. (A) Wound debridement, (B) Burn wound infected by MRSA, (C) Applying scaffolds on the burn-infected wounds.

**Figure S6.** The normal dorsal rat skin of (A) haematoxylin-eosin (H&E) histological stain, (B) Masson's trichrome histological stain, (C) TNF- $\alpha$  immunohistochemistry stain, (D) TGF- $\beta$ 1 immunohistochemistry stain (E) TGF- $\beta$ 3 immunohistochemistry stain. The bar corresponds to 200  $\mu$ m.

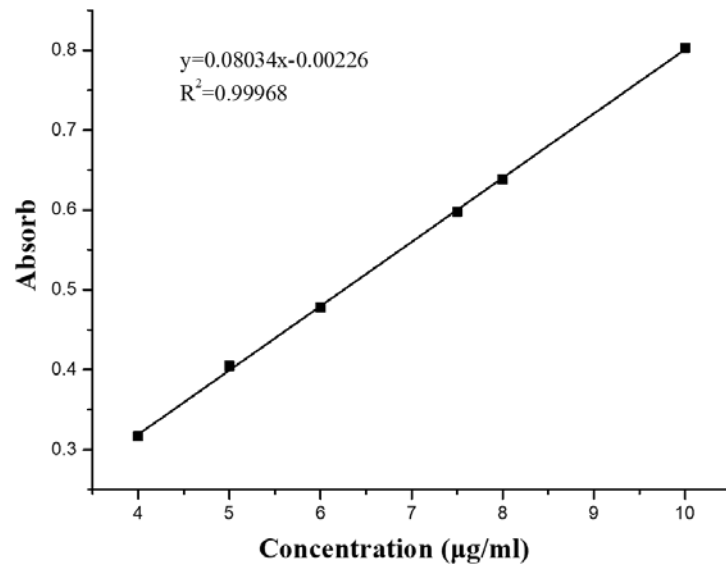
**Figure S7.** Expression of TNF- $\alpha$  in dorsal skin after SD rats full-thickness burn infection treated with Dex-HA (A, E, I), Biatain<sup>®</sup> Alginate Ag (B, F, J), SA/Dex-HA (C, G, K) and SA/GMs/Dex-HA (D, H, L) hydrogels for 7, 14, 21 days. The bar corresponds to 200  $\mu$ m.



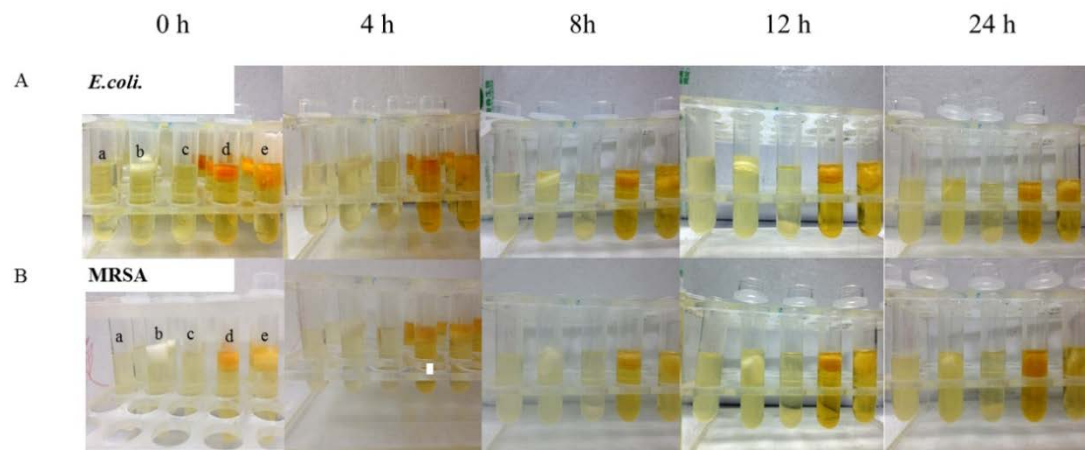
**Figure S1.**



**Figure S2.**



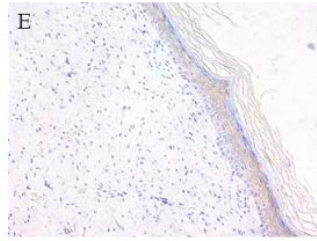
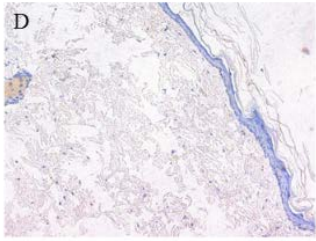
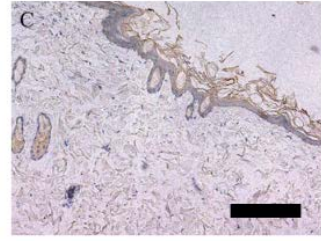
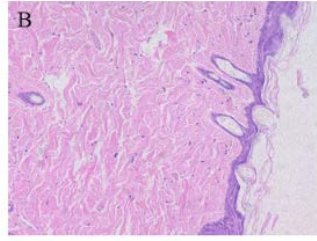
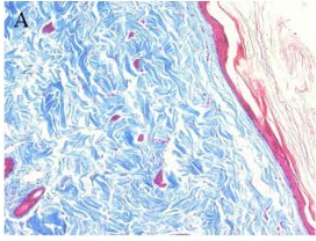
**Figure S3.**



**Figure S4**

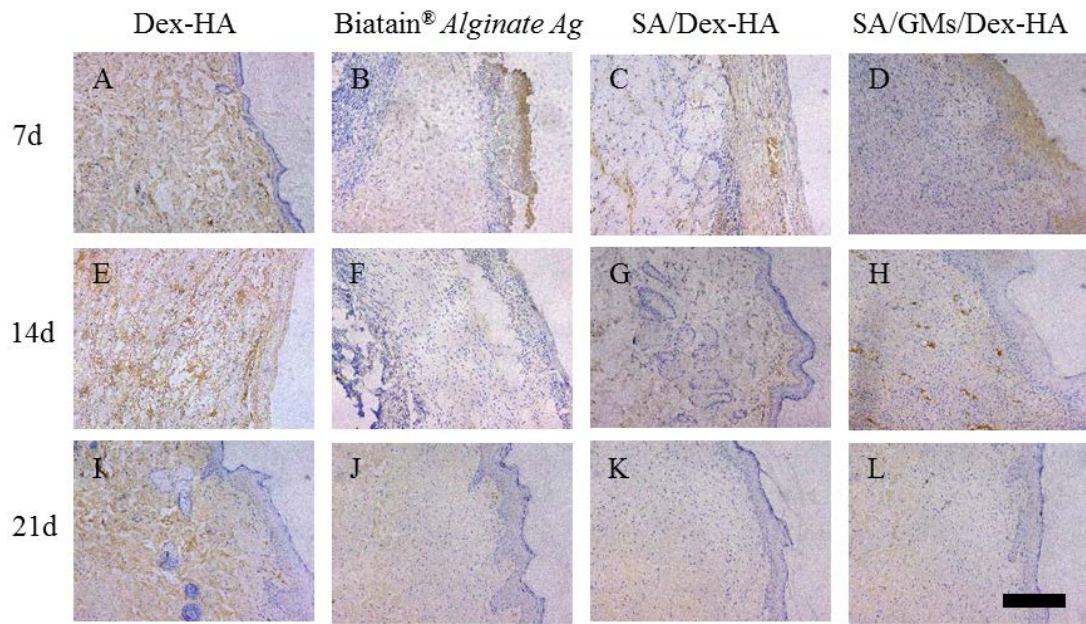


**Figure S5**



**Figure S6**





**Figure S7**