# Supporting Information

## Therapeutics transdermal delivery through dissolvable gelatin/sucrose film coated on PEGDA microneedle array with improved skin permeability

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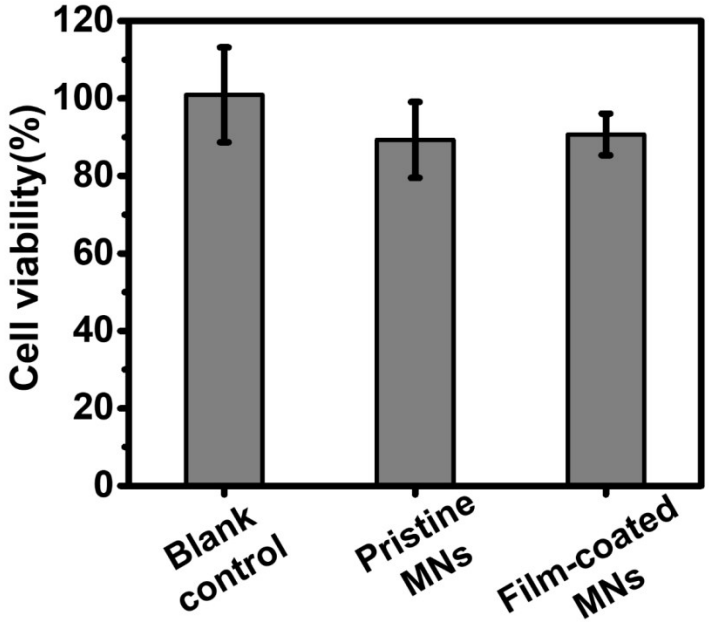


**Figure S1.** Viability of HUVECs after incubation with the soaking solution of microneedle patch (0.5 $cm^2$) for 24 h.

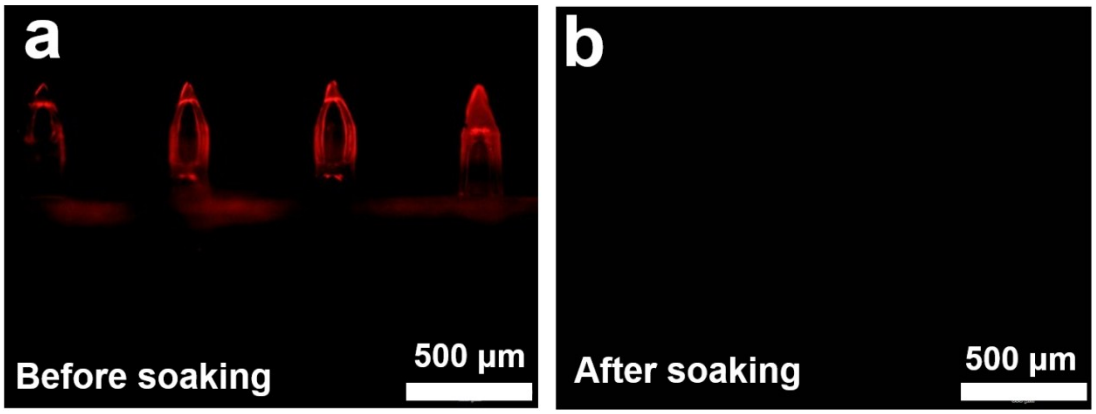


**Figure S2.**Fluorescence images of RhB/film-coated microneedles (a) before and (b) after incubation in DI water for 24 h.

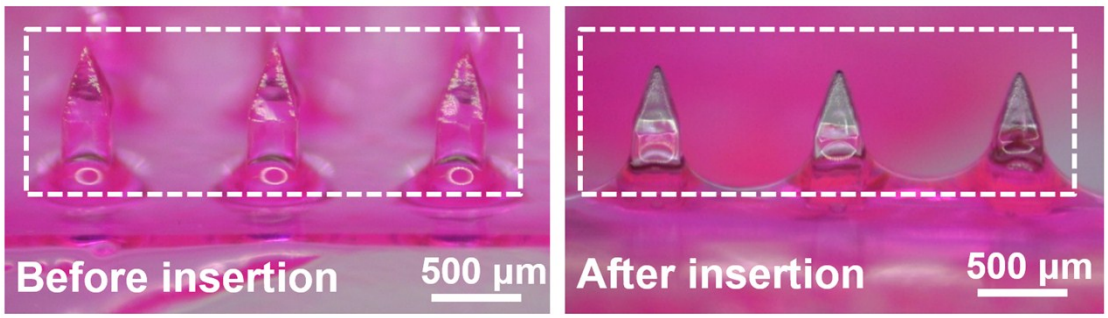


**Figure S3.** Bright field images of RhB/film-coated microneedles before and after the insertion into porcine skin.

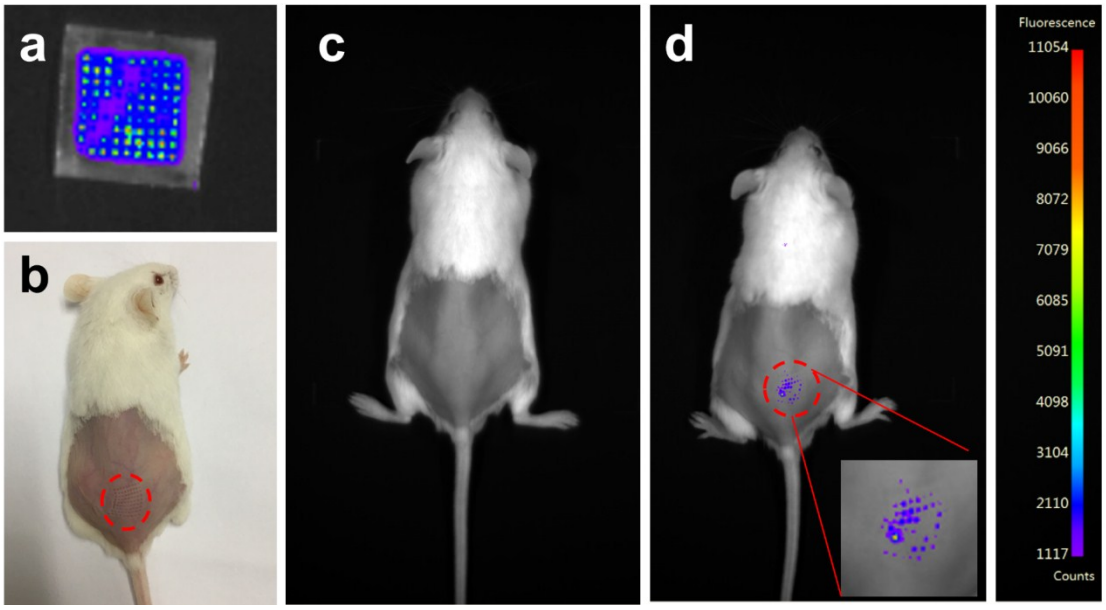


**Figure S4.** RhB/film-coated microneedles for skin penetration on a live mouse model. (a) Fluorescence image of a RhB/film-coated microneedle patch; (b) a live mouse with hair-shaved back skin for microneedle insertion; *in vivo* fluorescence images of the mouse (c) before and (d) after treatment with RhB/film-coated microneedles for 5 min.

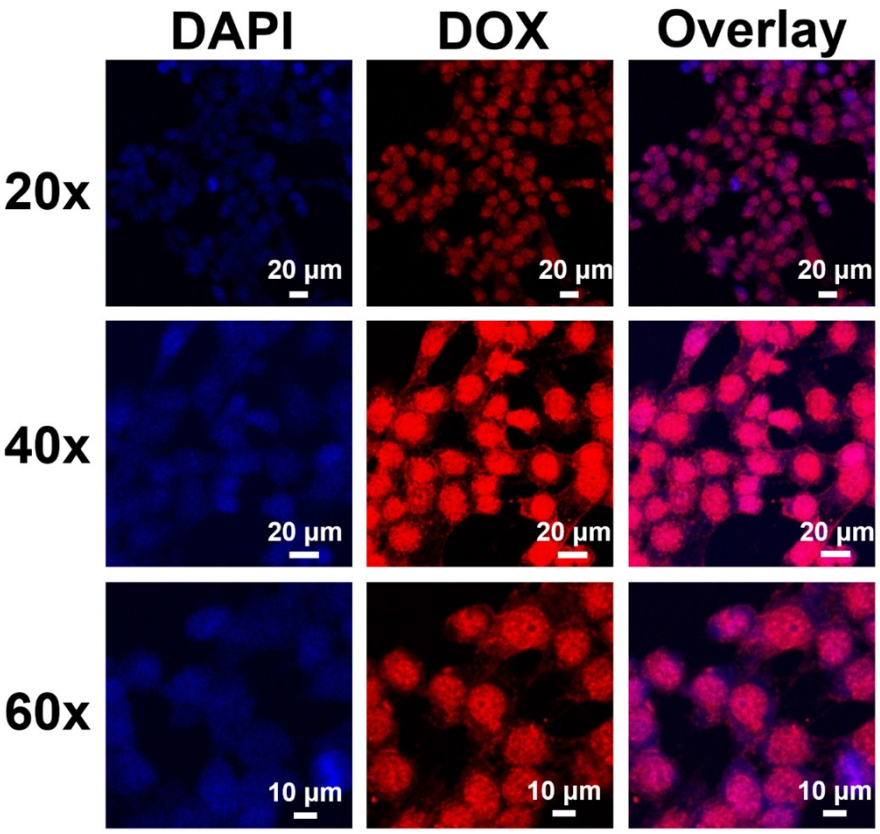


**Figure S5.** Fluorescence images of 4T1 cells after incubation with the soaking solution of DOX/film-coated microneedles for 4 h under various magnifications.