

Supporting Information

Self-Assembly DNA Polyplex Vaccine inside Dissolving Microneedles for High-Potency Intra-dermal Vaccination

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Figure S1. Images of the contact angle for the microneedle polydimethylsiloxane mold before (*left*) and after (*right*) treatment with oxygen plasma.

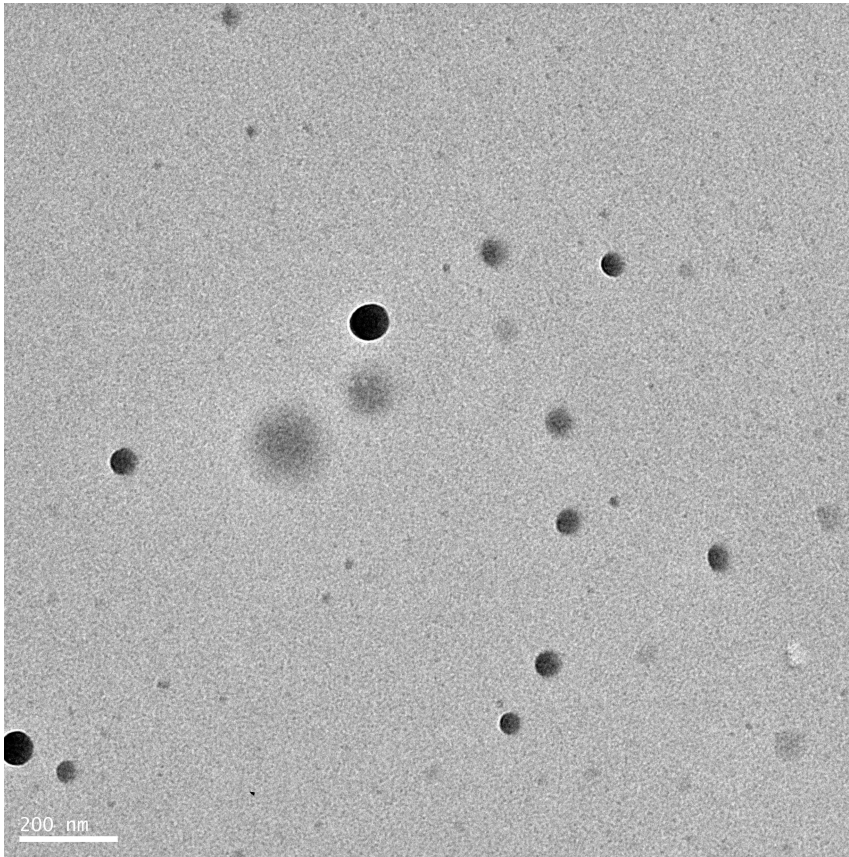


Figure S2. A representative transmission electron micrograph (TEM) of the polyplexes in MNs formed by bPEI and DNA vaccine interaction.

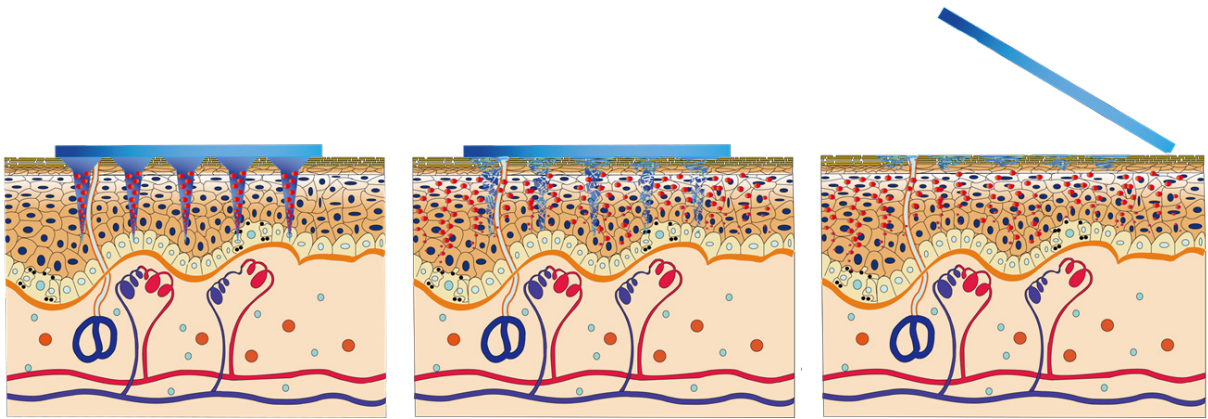


Figure S3. Schematic illustrations of the transdermal delivery of DNA vaccines to the epidermis using dissolving MN patches.

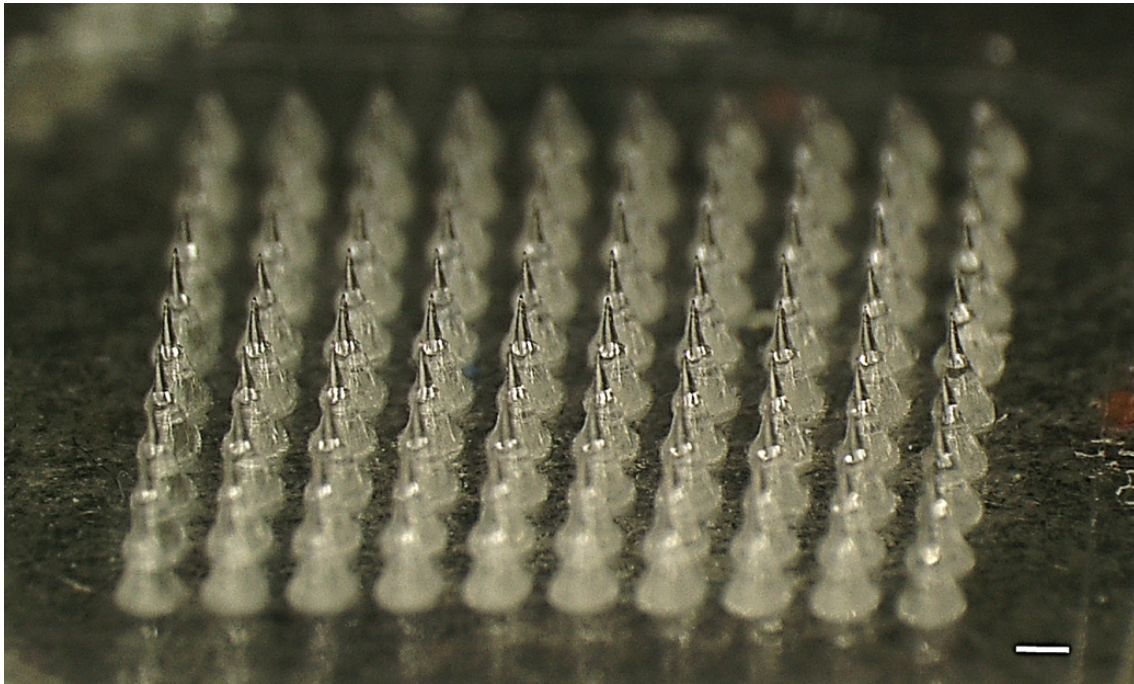


Figure S4. Bright-field image of microneedle (MN) patch containing 100 solid MNs made of water-soluble polymers that encapsulate DNA vaccines for intradermal delivery to the skin (scale bar: 500 μm).

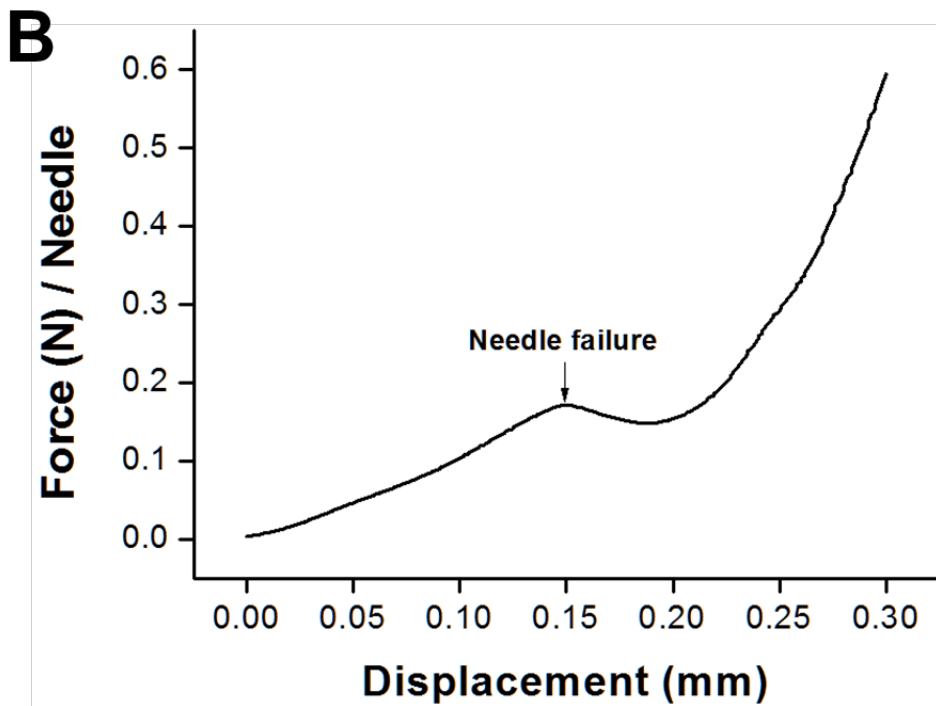
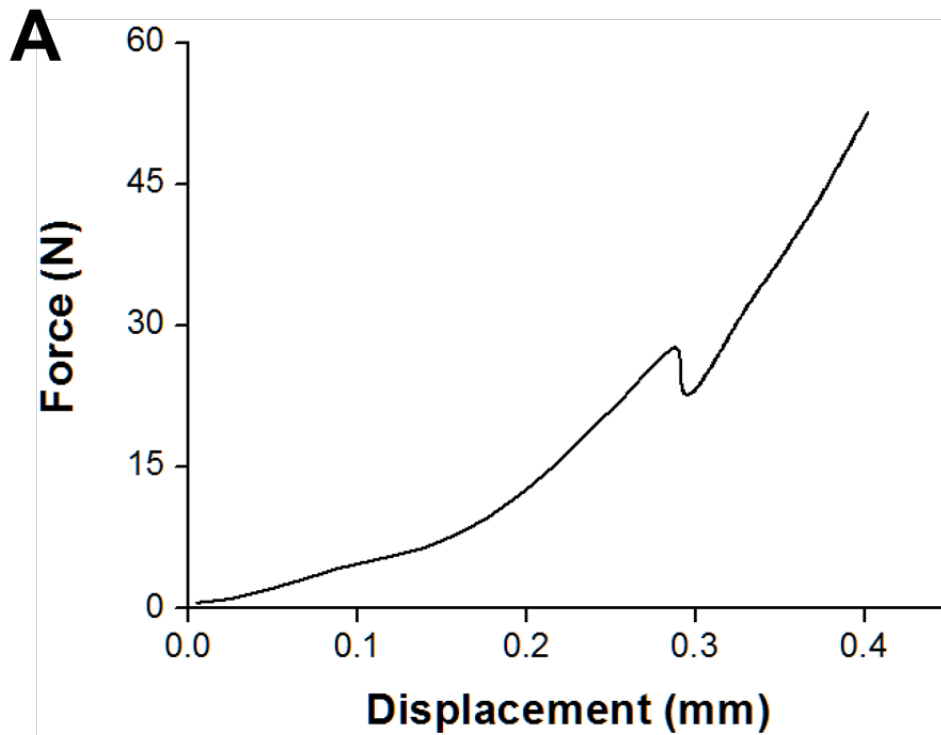


Figure S5. Representative result obtained in a compression test of (A) a whole microneedle (MN) patch (100 solid MNs), and (B) single needle encapsulating the DNA vaccine for porcine circovirus Type 2.

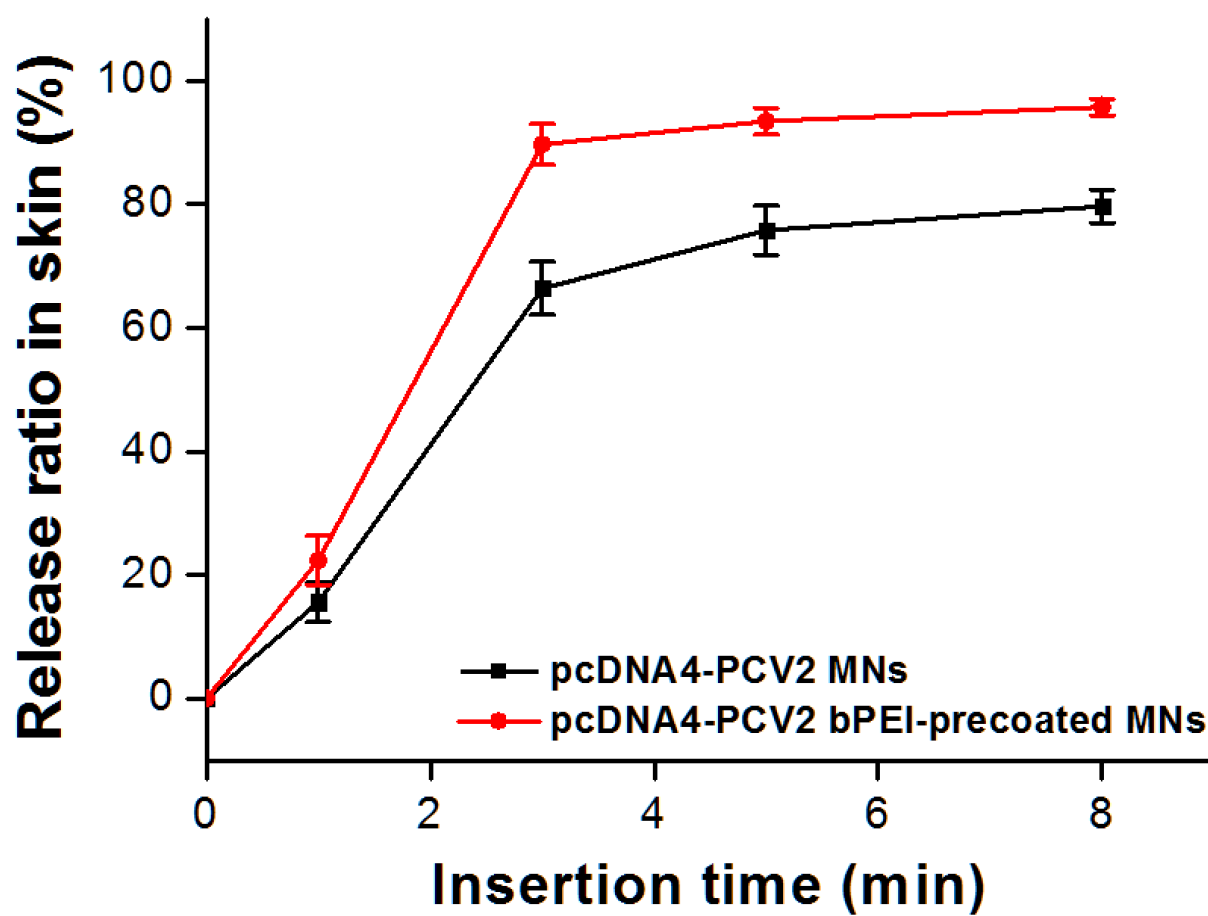


Figure S6. Curve of release kinetics of DNA vaccine from MNs or bPEI-precoated MNs to epidermis after insertion in mouse skin.