



Supporting Information

for *Adv. Sci.*, DOI: 10.1002/adv.202102327

Ocular delivery of predatory bacteria with cryo-microneedles against eye infection

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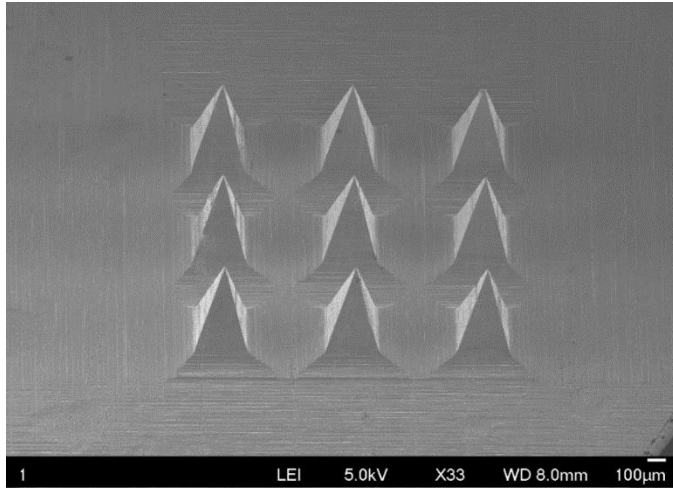


Figure S1. Scanning Electron Microscope image of stainless-steel microneedle (MN) mother template (scale bar is 100 μm).

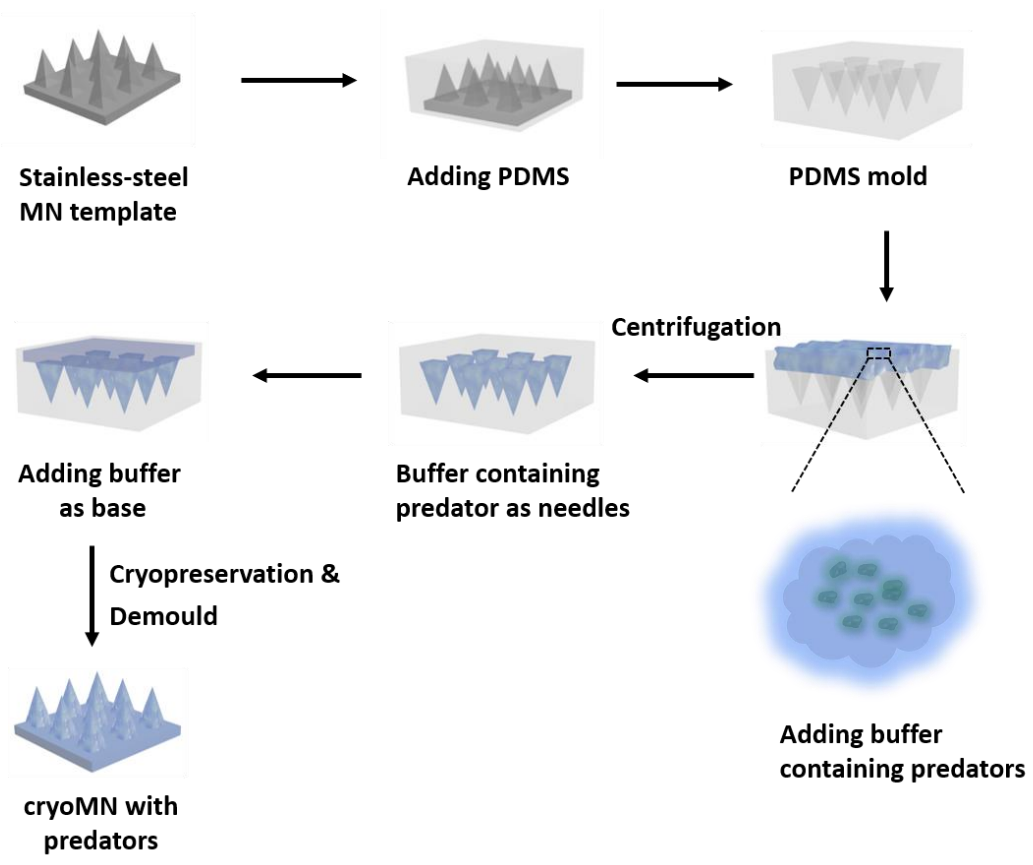


Figure S2. Schematic illustration of the cryo-microneedle (cryoMN) fabrication process.

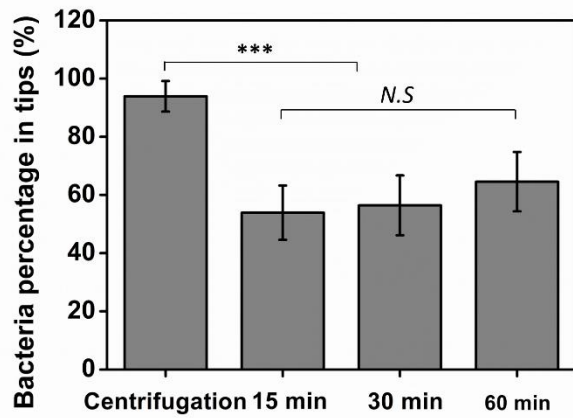


Figure S3. Percentage of bacterial inside needle tips by either centrifugation or natural sediment.

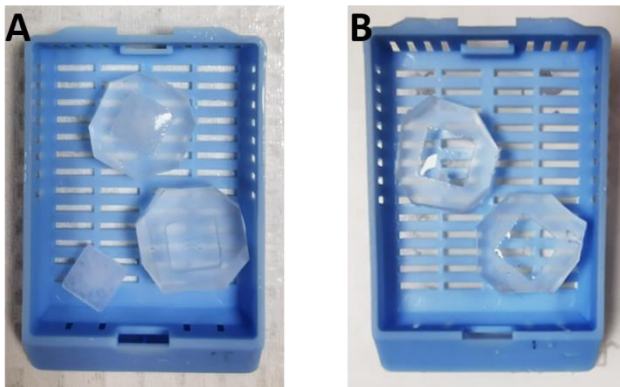


Figure S4. cryoMN patches made of cryoprotectant medium containing (A) 5% or (B) 10% glycerol.

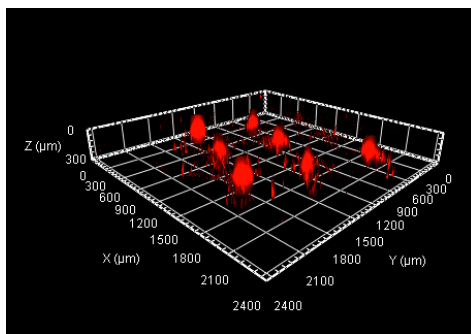


Figure S5. Confocal image showing the penetration of cryoMNs and the delivery of bacteria in agarose gel.

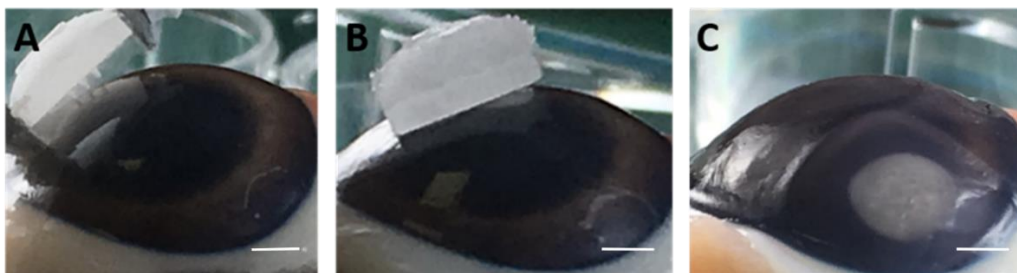


Figure S6. Cornea penetration of cryoMNs. A cryoMN patch containing 3×3 MNs was thumb pressed on the central region of porcine eye. Bright-field images of the porcine eye before (A) and after (B) cryo-MN insertion. (C) A close view of the MN patterns left on the eye. Scale bar is 2 mm.

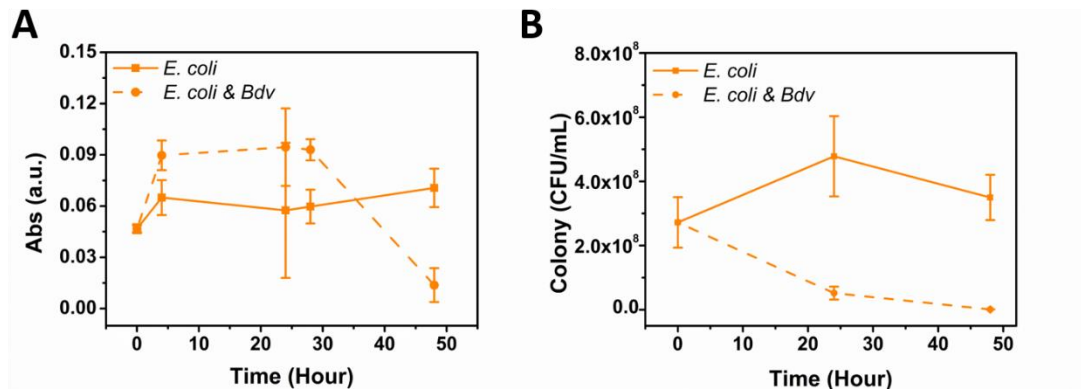


Figure S7. *In vitro* predation ability of predatory bacteria. (A) Time-dependent optical density changes after incubation with prey cells measured by BioTek plate reader. (B) Time-dependent changes of bacterial concentrations after incubation with prey cells measured by CFU plating.

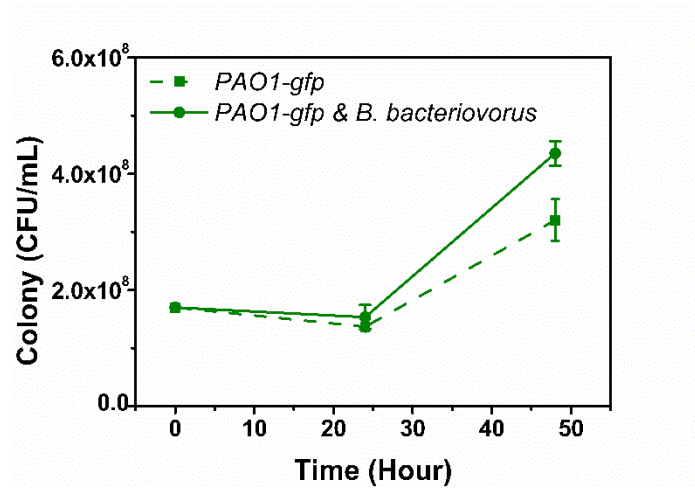


Figure S8. *In vitro* predation of *B. bacteriovorus* delivered by cryoMNs against *PAO1-gfp*.