

Supporting Information

Drug-loaded Adhesive Microparticles for Biofilm Prevention on Oral Surfaces

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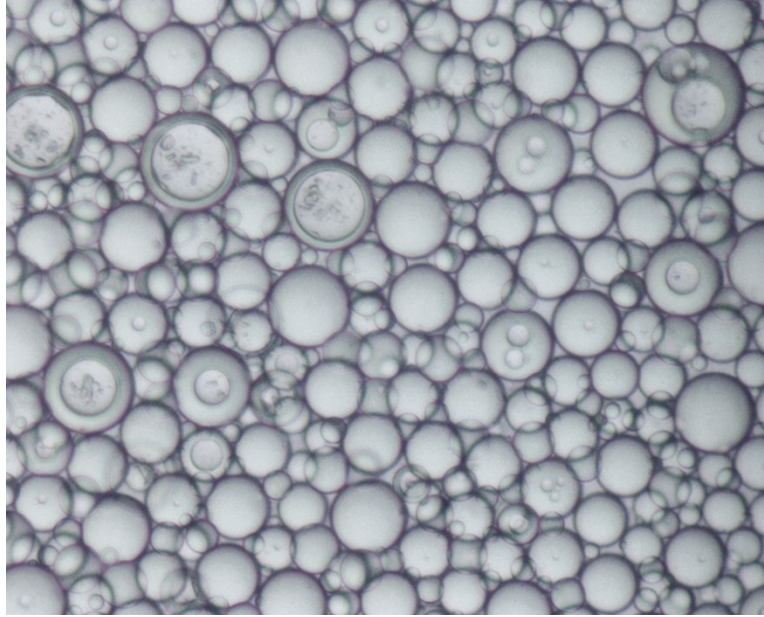


Figure S1. A microscopic image of the W/O/W emulsion with nystatin dispersed in the inner phase.

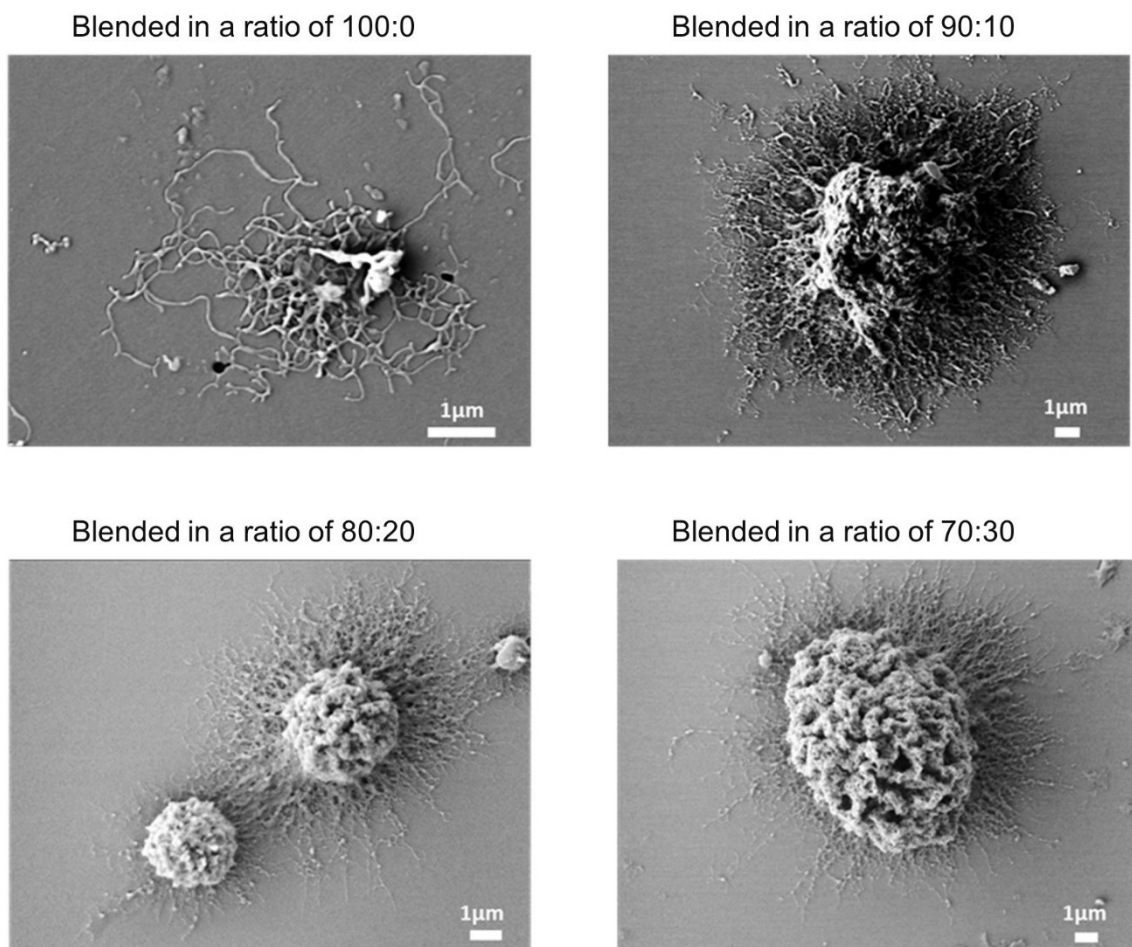


Figure S2. Fabrication of PLGA_{40k}-*b*-PEG_{5k} block copolymer microparticle with 10 mg/mL polymer in DCM varied by PLGA_{35k-45k} blending ratio. pH at 8.5, PVA 0.1 wt% aqueous solution used as continuous phase.

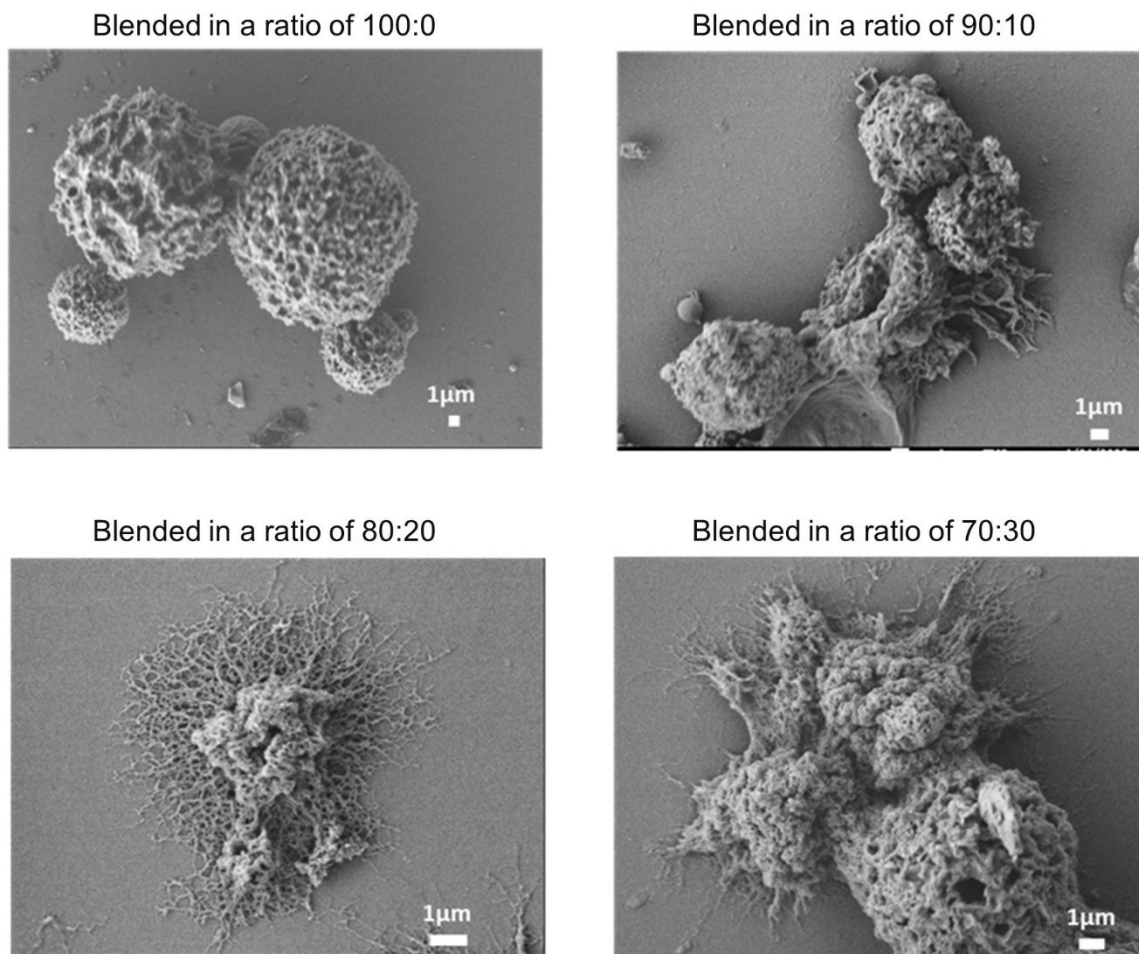


Figure S3. Fabrication of PLGA_{40k}-*b*-PEG_{5k} block copolymer microparticle with 30 mg/mL polymer in DCM varied by PLGA_{35k-45k} blending ratio. pH at 8.5, PVA 0.1 wt% aqueous solution used as continuous phase.

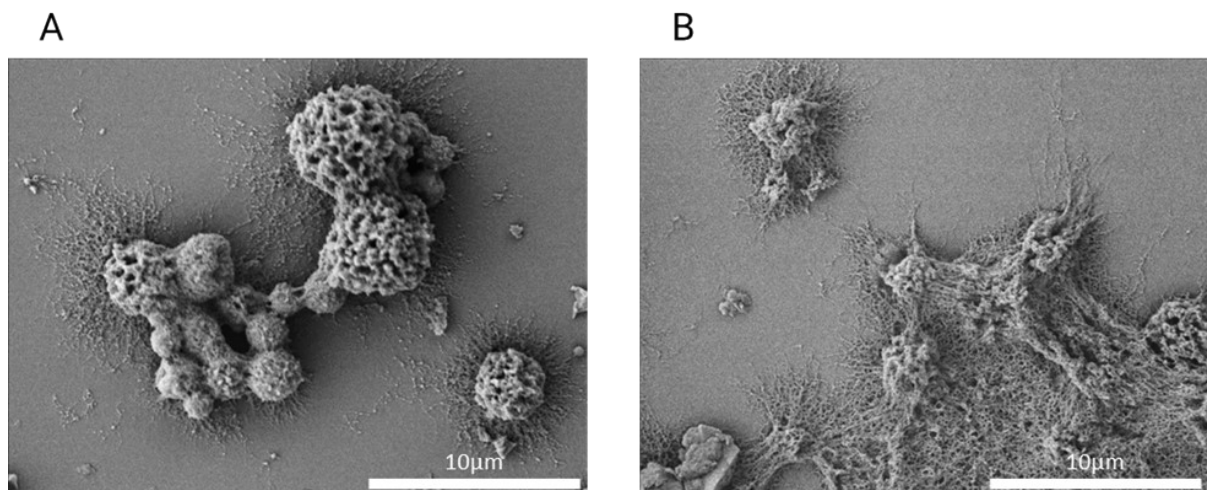


Figure S4. SEM images of PLGA_{40k}-*b*-PEG_{5k} and PLGA_{35k-45k} blended at an 80:20 ratio, showcasing dendritic microparticles varied by the weight percentage of block copolymer, with concentrations of (A) 10 mg/mL and (B) 30 mg/mL polymer in DCM. As the polymer concentration increases from (A) to (B), the diameter of the wire branches increases and becomes more branched, which induces more physical interaction during the sample preparation.

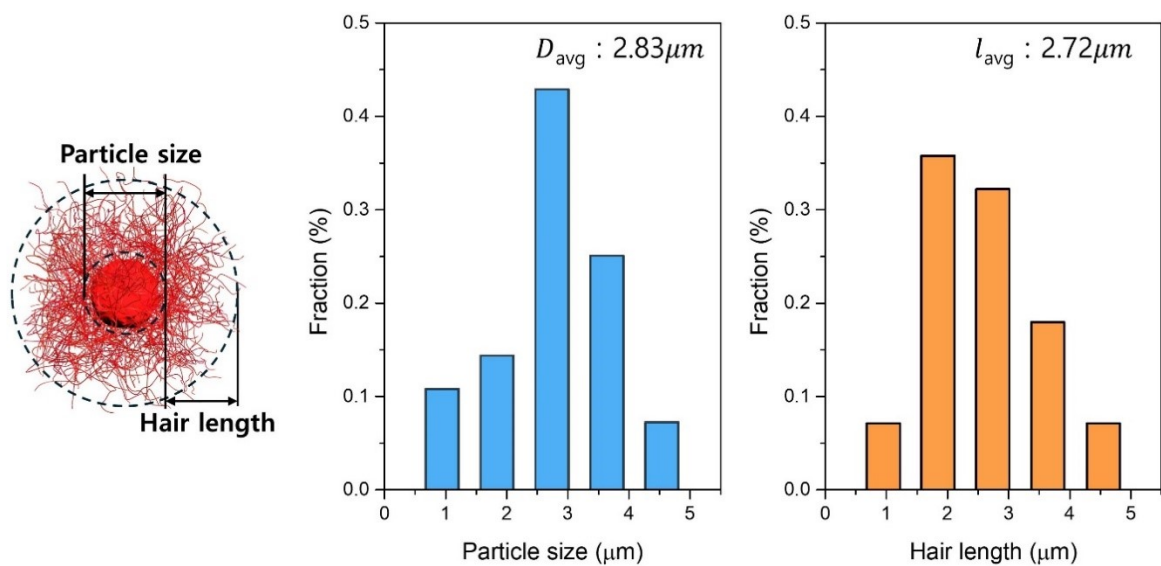


Figure S5. Histograms displaying the particle size (D) and the dendrite length (l) of drug-loaded dendritic nanoparticles, which are fabricated using a blend of PLGA_{40k}-*b*-PEG_{5k} and PLGA_{35k}-_{45k} at an 80:20 ratio, with a polymer concentration of 10 mg/mL in DCM.

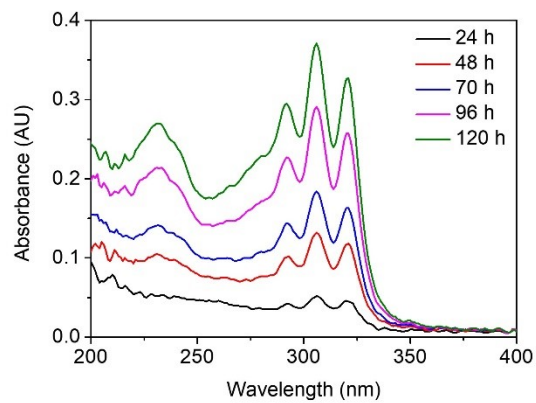


Figure S6. Time-dependent absorbance spectra of nystatin from the dendritic microparticles.

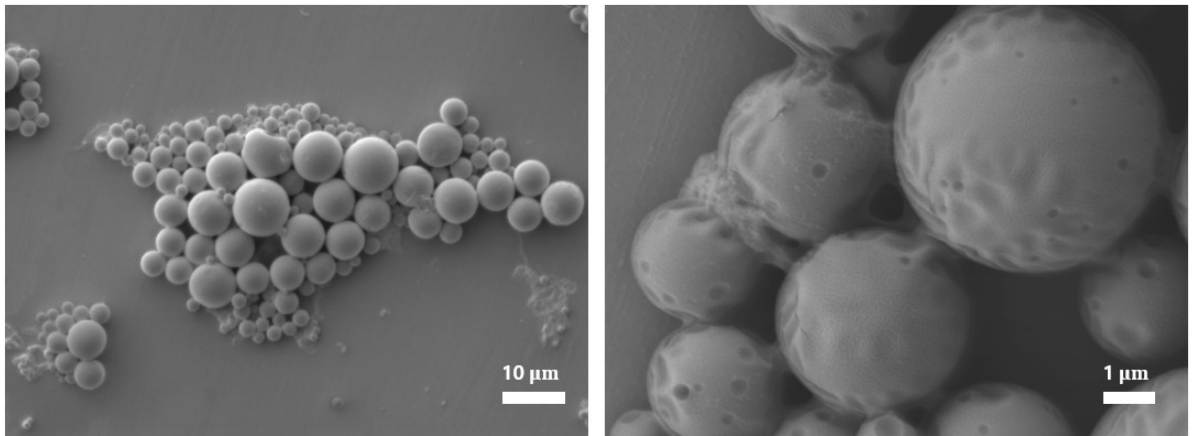


Figure S7. SEM images of spherical PLGA microparticles fabricated using the 80:20 blend ratio with 10 mg/mL polymer in DCM.

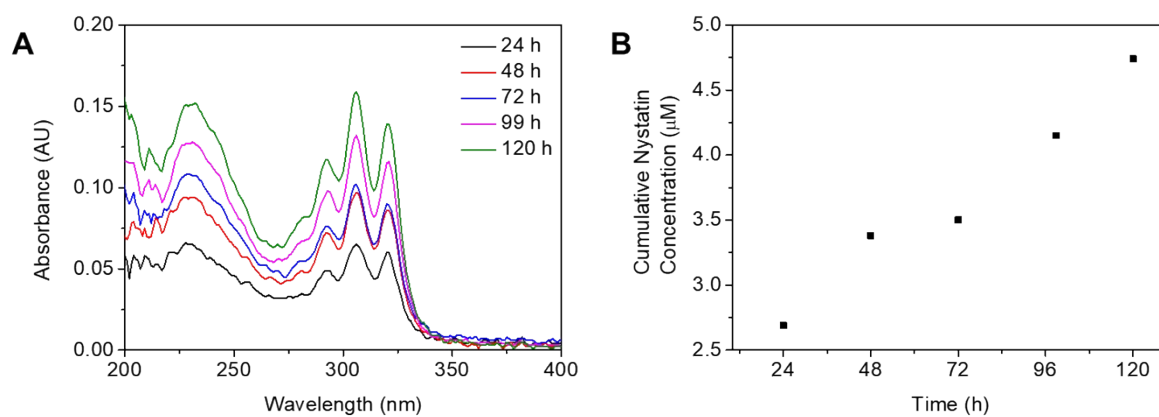


Figure S8. (A) Time-dependent absorbance spectra of nystatin from the PLGA spherical microparticles. (B) Cumulative concentration release curve of nystatin from PLGA spherical particles at 37°C under stirring.

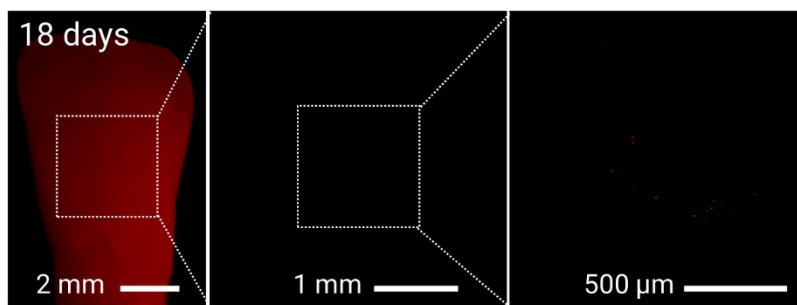


Figure S9. Fluorescence images of dendritic microparticles on a saliva-coated human tooth for 18 days.

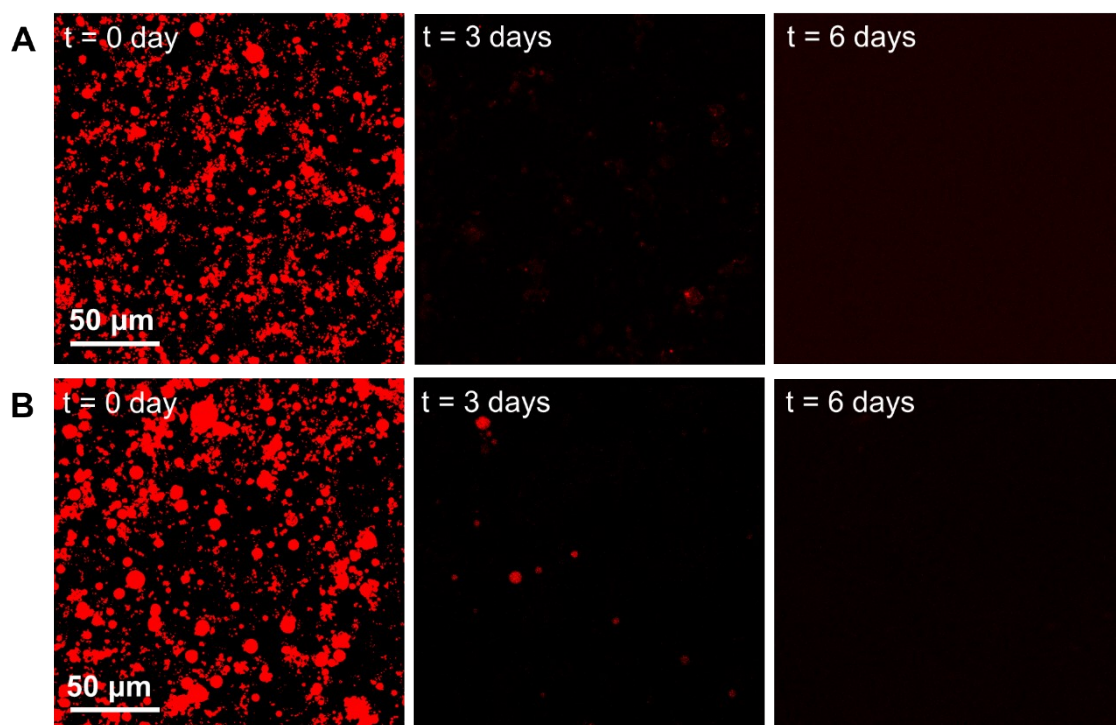


Figure S10. (A-B) Fluorescence images of dendritic microparticles on a sHA disk under ultrapure water (A) and whole saliva (B) after 0, 3 and 6 days at 37 °C. All fluorescence images share the same scale bar.