

Chemoselective layer-by-layer encapsulation of pancreatic islets via hyperbranched polymers

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SUPPLEMENTAL FIGURES

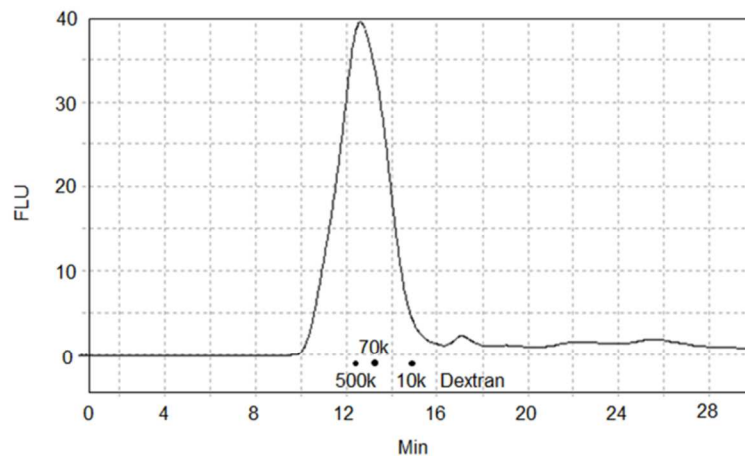


Figure S-1. Size exclusion chromatography (SEC) results for hyperbranched ALG-N₃, in relation to dextran of different molecular weights (500, 70, and 10 kDa).

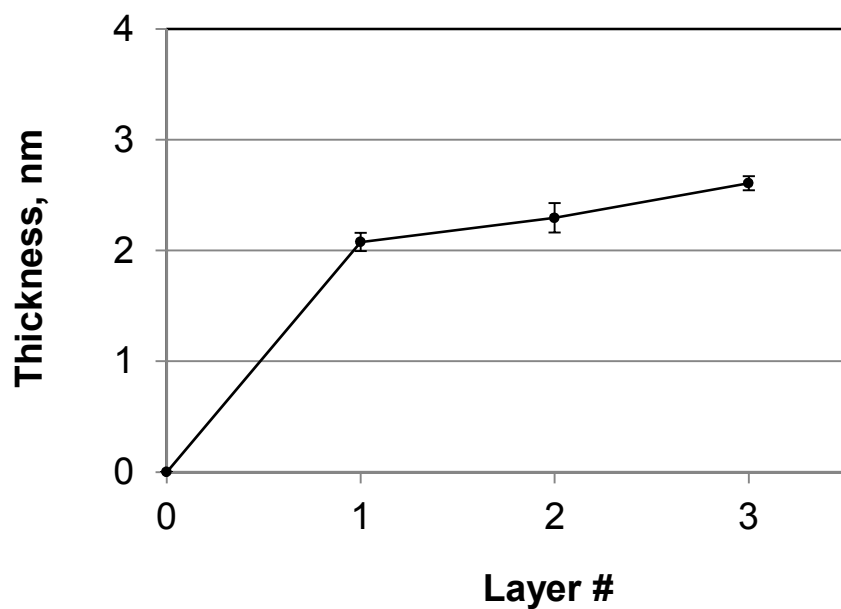


Figure S-2. Change in film thickness upon deposition of alternate layers of PAMAM 15/50 and hyperbranched Alg-N₃. Polymer concentration was 3 mg/mL in PBS (pH 7.35). Each layer was deposited for 10 min at 37 °C followed by rinsing steps in PBS and water.

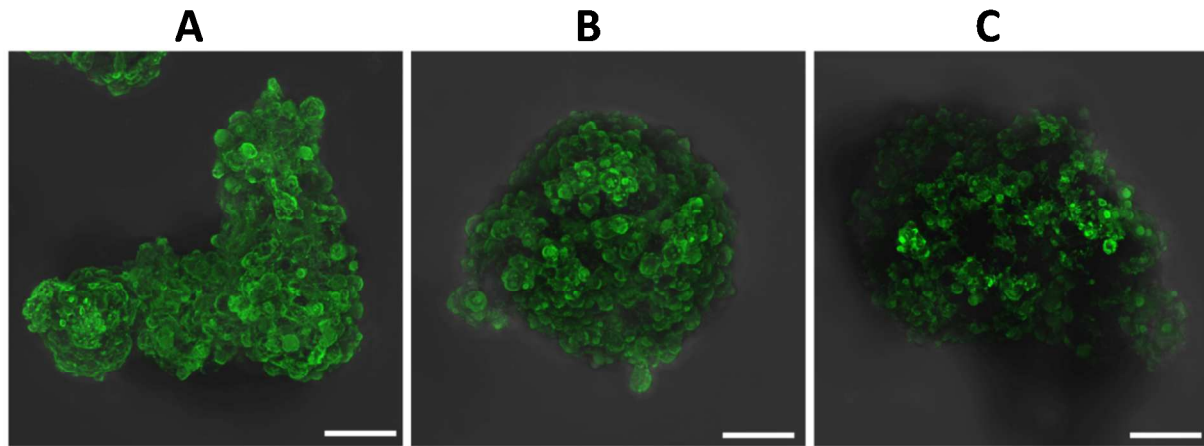


Figure S-3. Encapsulation of primary rat pancreatic islets via 6 layers via layer-by-layer assembly of alginate and PAMAM. Evaluation of capsule formation via fluorescein labeled alginate and confocal z-stack projection (**A-C**) imaging of rat pancreatic islets 120 hr after coating. Groups: **(1)** electrostatic assembly via three bilayers of PAMAM 15/0 and fluorescently-labeled hyperbranched Alg-N₃; **(2)** primary layer of NHS-PEG-N₃, followed by three bilayers of PAMAM 15/20 and fluorescently-labeled hyperbranched Alg-N₃; and **(3)** primary layer of NHS-PEG-N₃, followed by three bilayers of PAMAM 15/40 and fluorescently-labeled hyperbranched Alg-N₃. Scale bar = 50 μ m

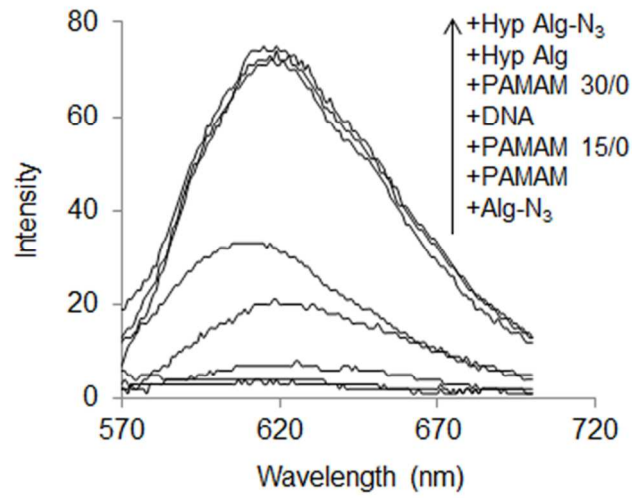


Figure S-4. Fluorescence intensity of ethidium homodimer-1 probe following mixing with dendritic materials in solution, as outlined in legend. Concentration of ethidium homodimer-1 (1.2 $\mu\text{L}/\text{mL}$) and polymers (3 mg/mL) was the same utilized with cells. Wavelength for excitation was 515 nm.