

Peptide-Coated Polycaprolactone-Benzalkonium Chloride Nanocapsules for Targeted Drug Delivery to the Pancreatic β -Cell



Background

- T1D results from β -Cell destruction
- Current therapies lack targeting

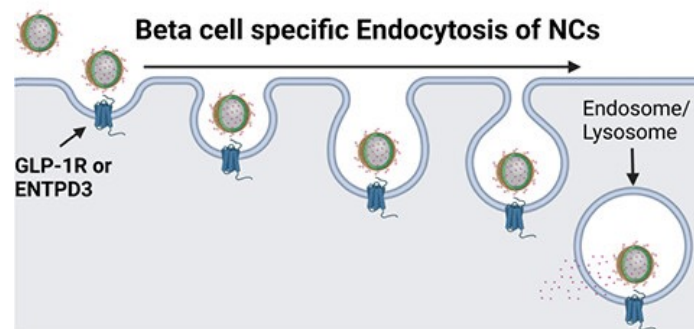
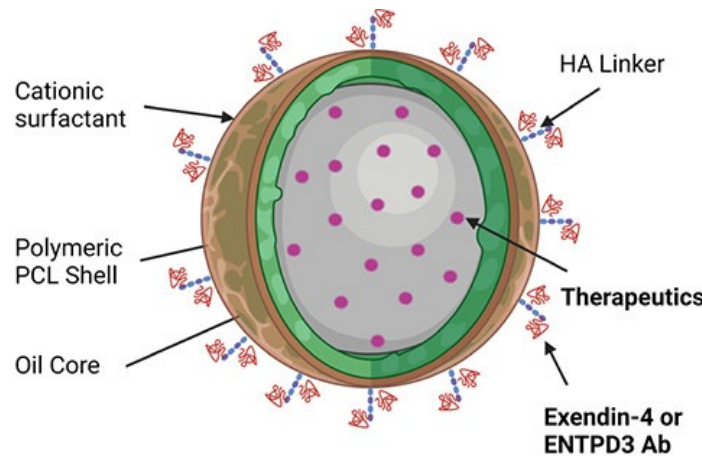
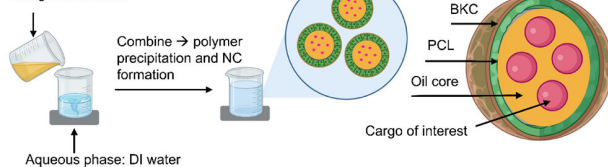


Objective

Develop a nanocapsule (NC) system for targeted β -Cell delivery

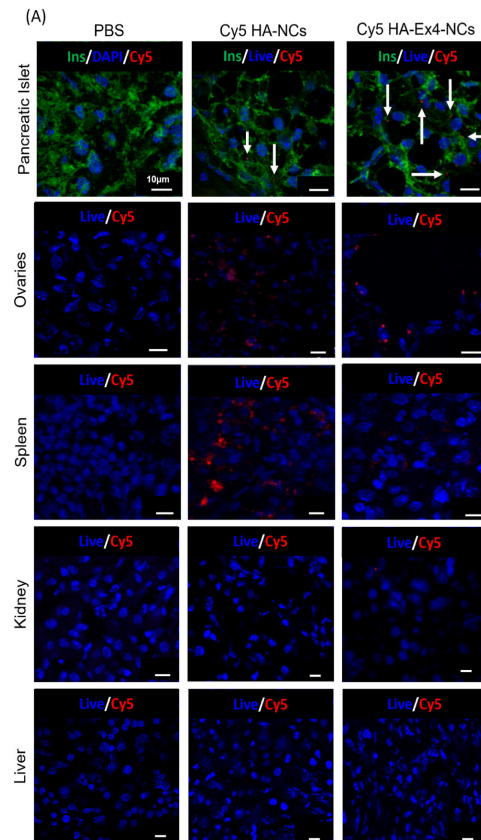
Methods

Oil phase: cargo of interest, oil, PCL and BKC dissolved in organic solvents



Results

- High specificity for β -Cells
- Successful delivery of cargo
- Minimal off-target toxicity



Conclusion

Nanocapsules enable targeted, sustained drug delivery to pancreatic β -Cells and represent a promising therapeutic platform for T1D.