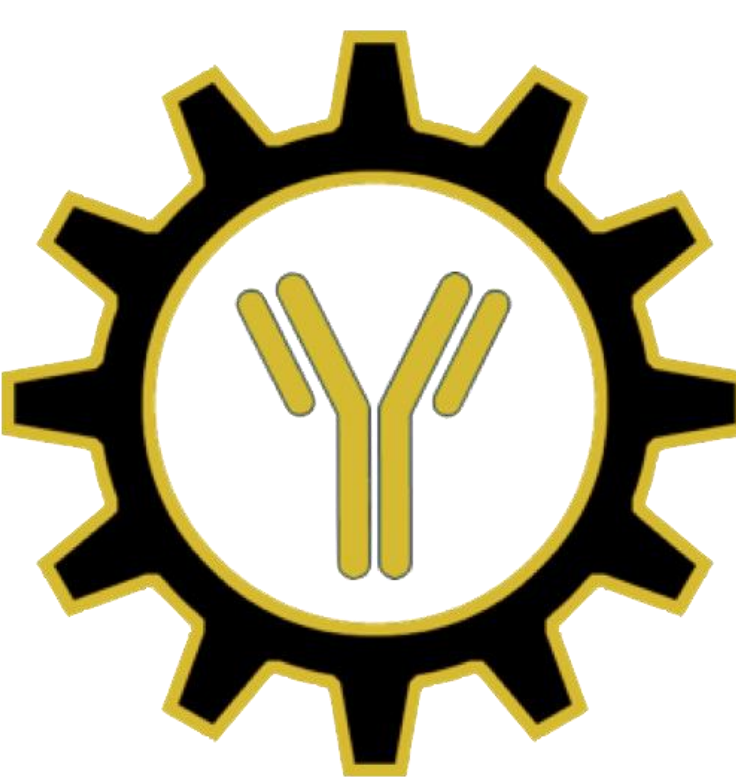


STING-PATHWAY INHIBITION TO TREAT STING-ASSOCIATED INFLAMMATORY CONDITIONS

Lucinda E. Pastora¹ and John T. Wilson¹ (PI)

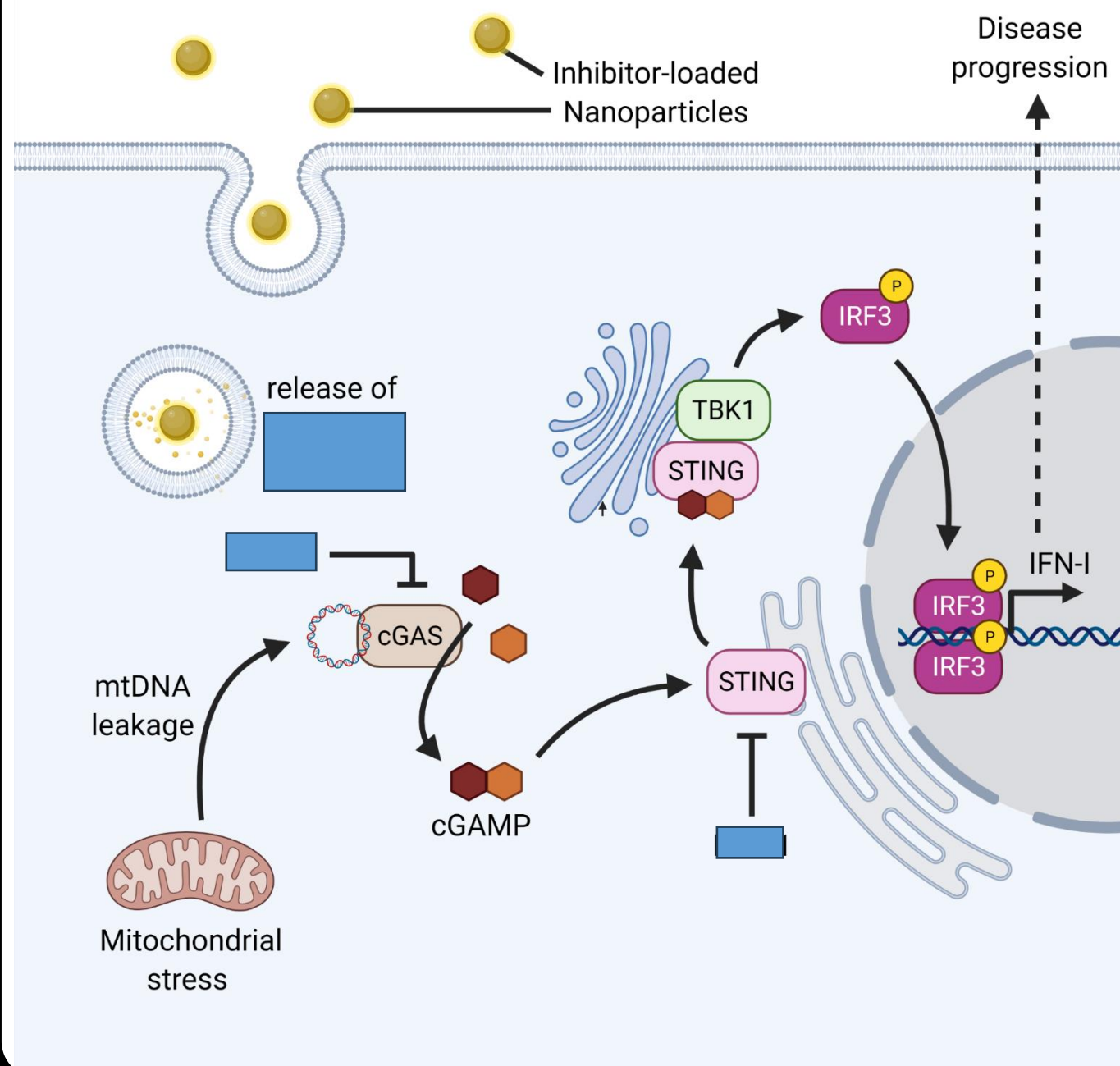
¹Department of Chemical and Biomolecular Engineering, Vanderbilt University



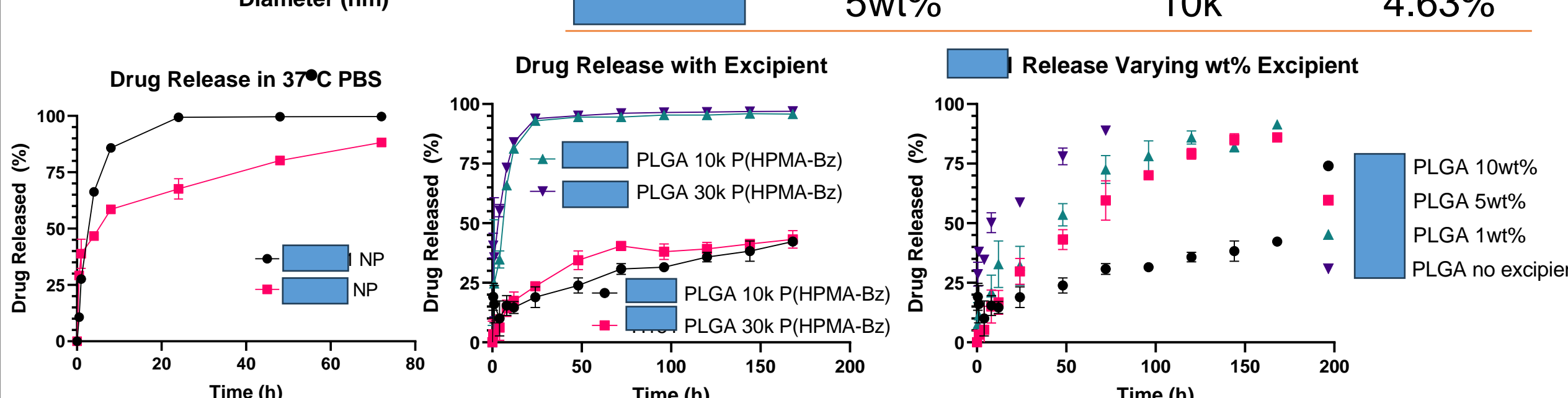
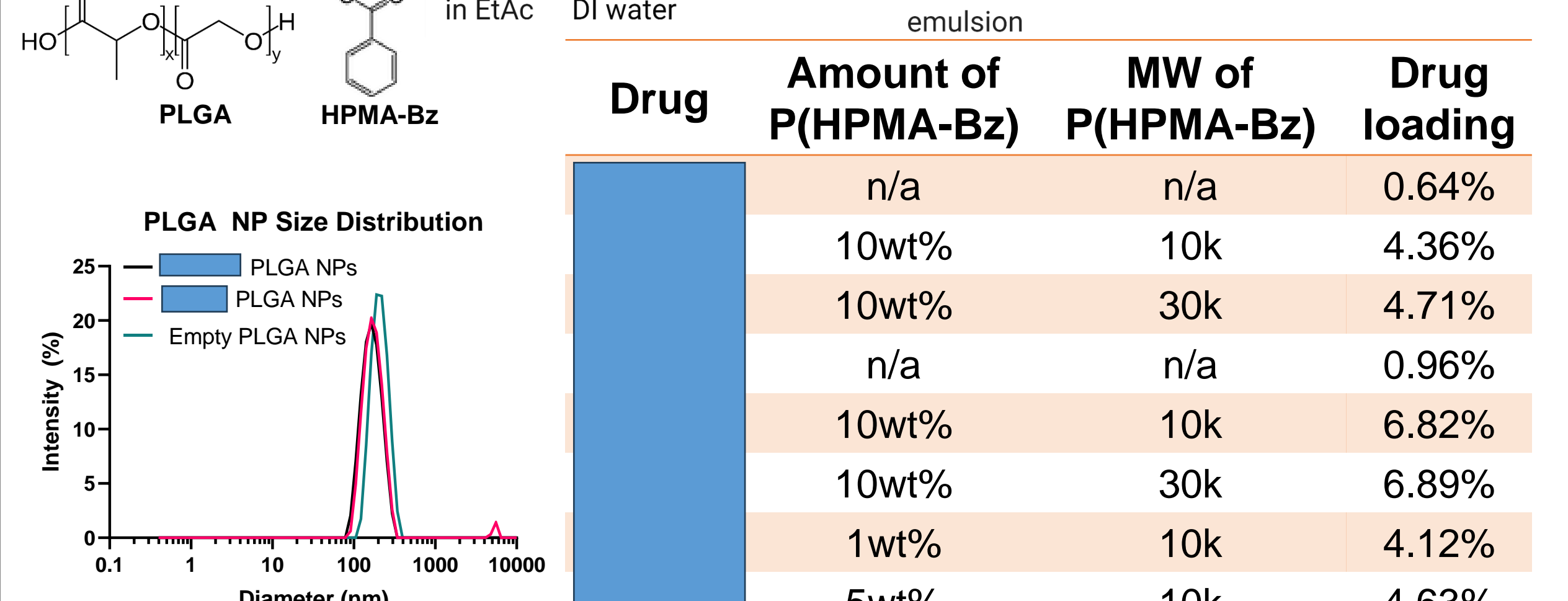
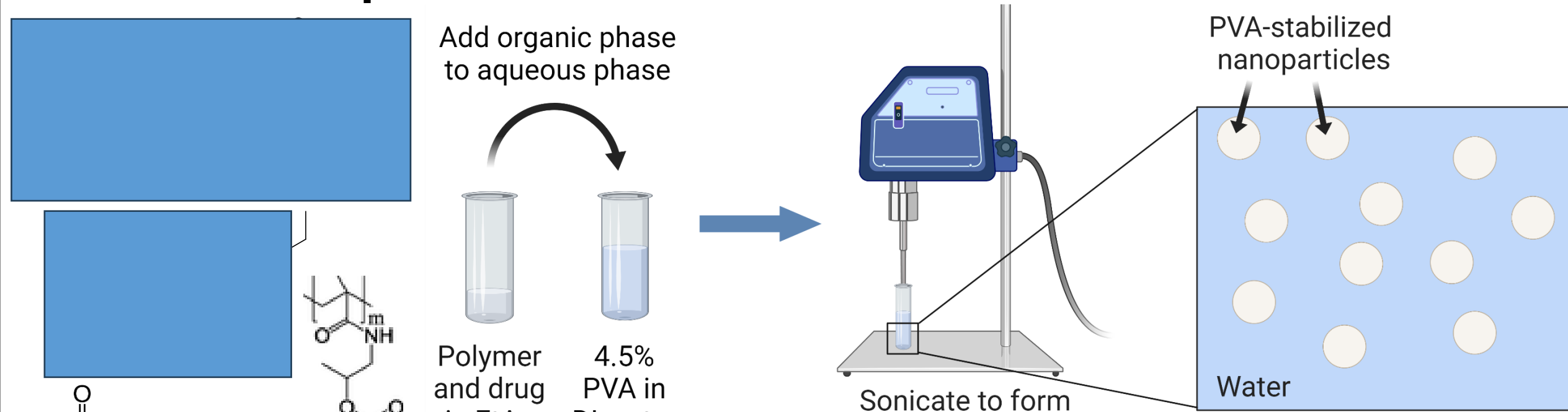
STING-Pathway Inhibiting Nanoparticles: Formulation and Characterization

Objective

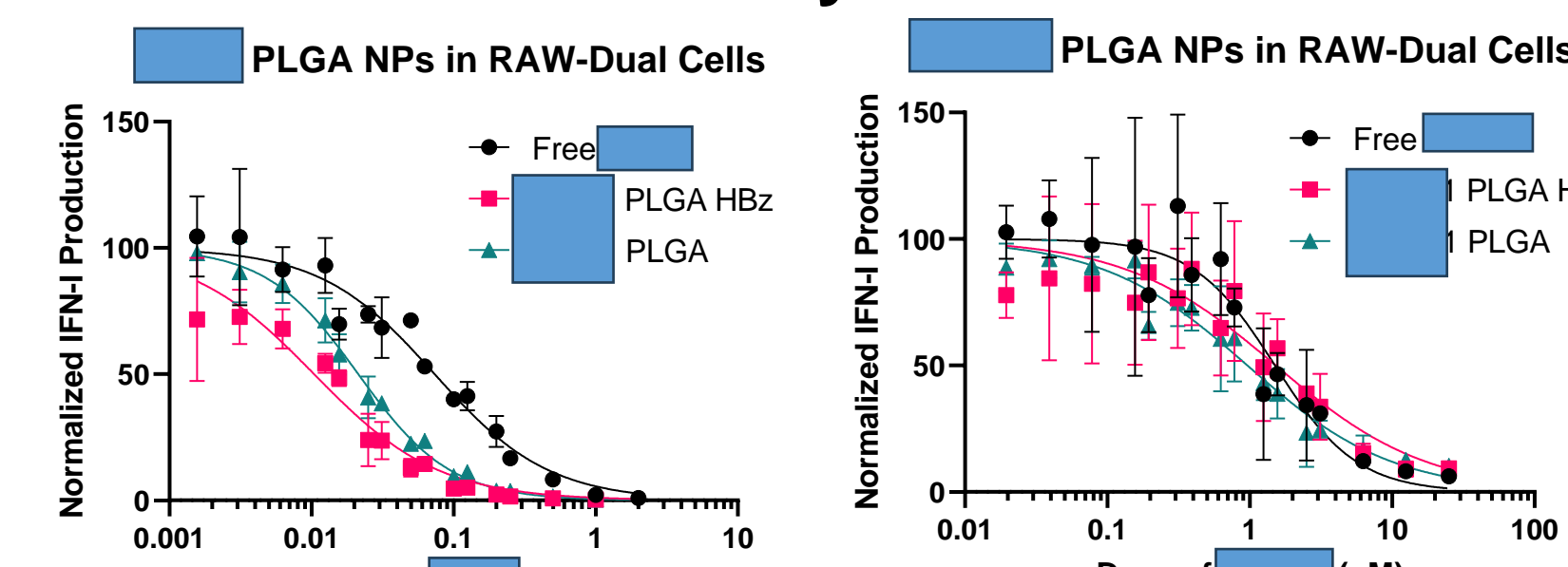
- Develop nanoparticle (NP) formulations encapsulating STING pathway inhibitors
- Evaluate the capacity of inhibitor-loaded nanoparticles to enhance and sustain inhibition of cGAS/STING signaling in myeloid cell lines
- Evaluate nanoparticles in primary cells in vitro



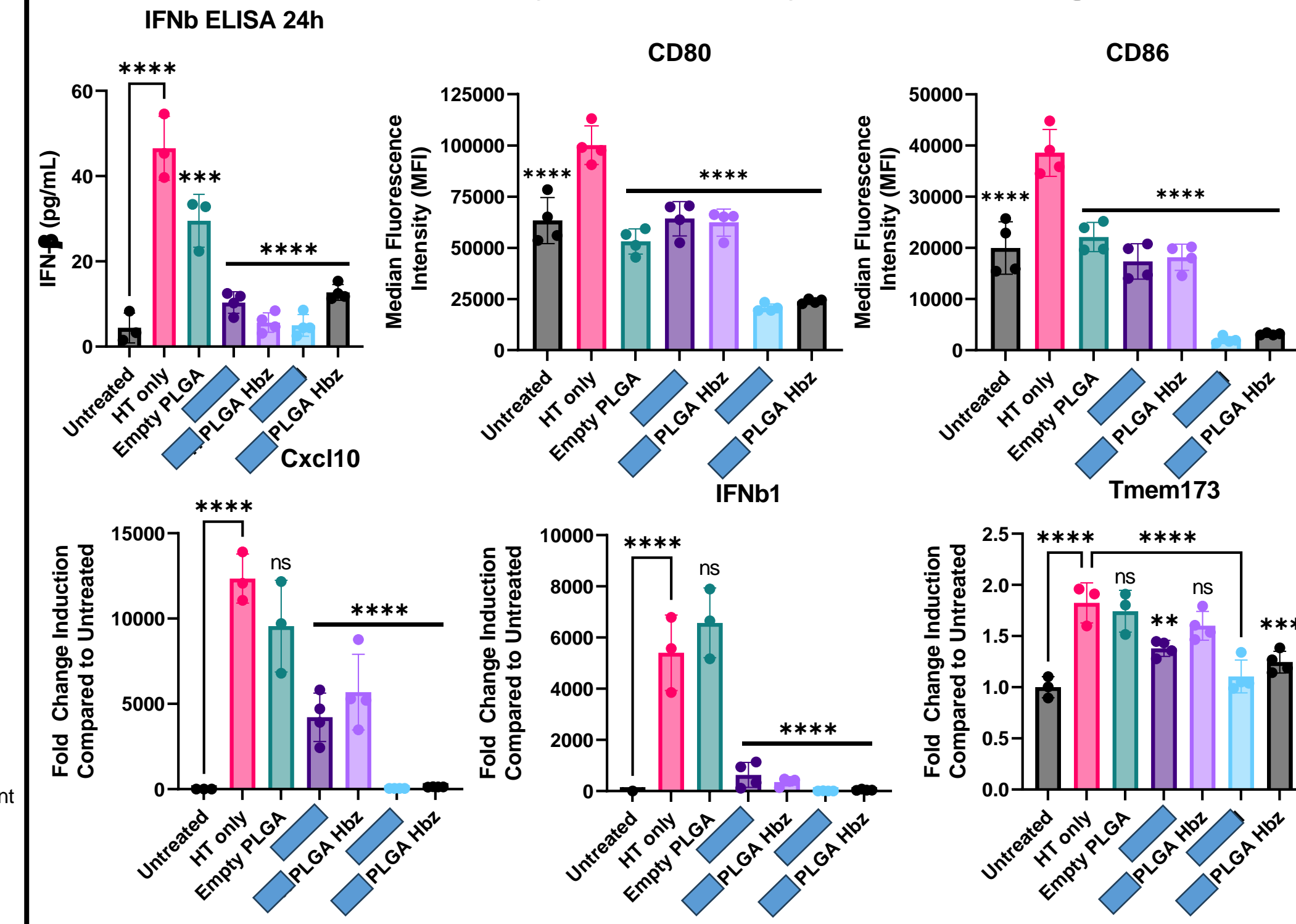
Nanoparticle Formulation and Characterization



In vitro efficacy in cell lines

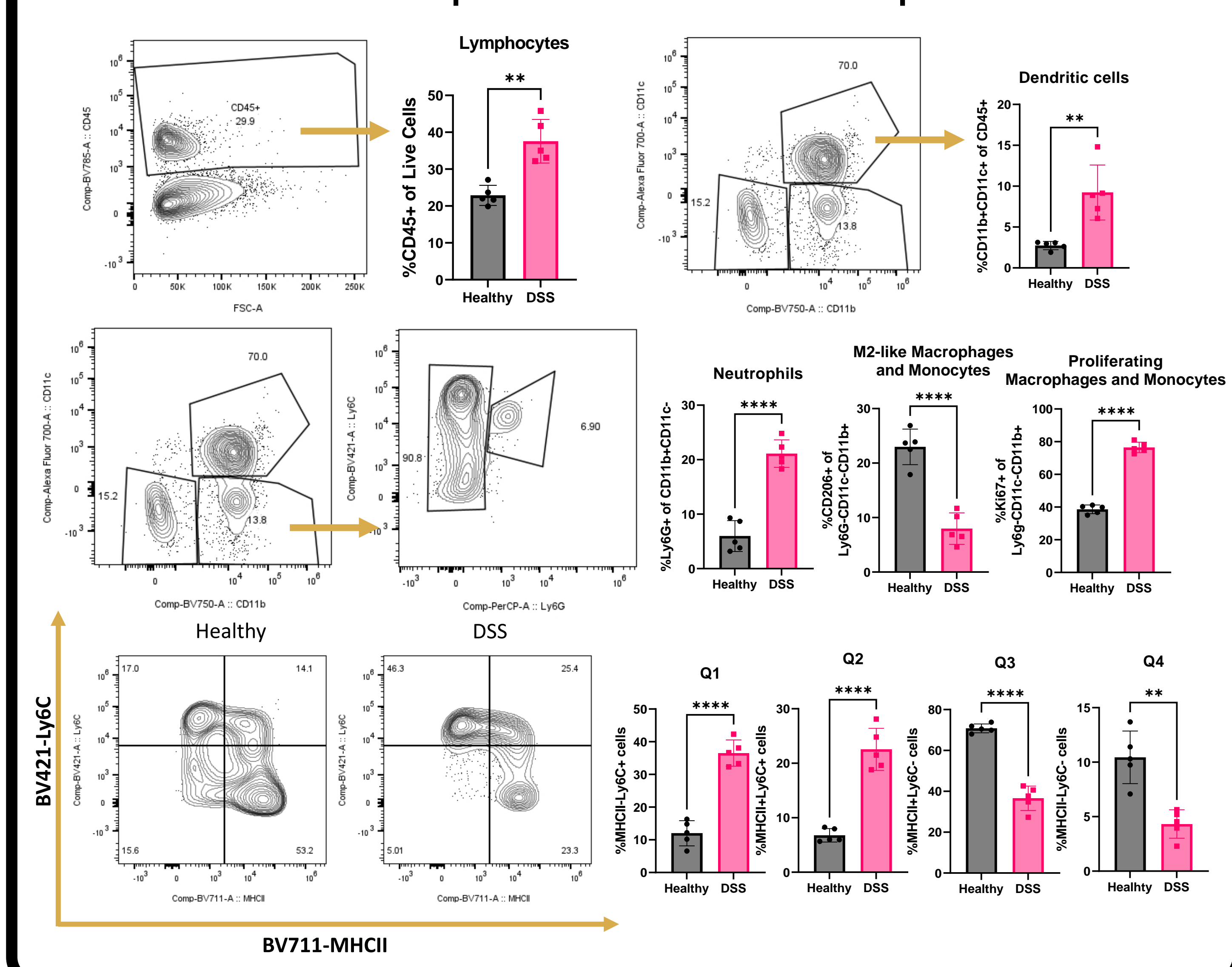


In vitro efficacy in primary macrophages



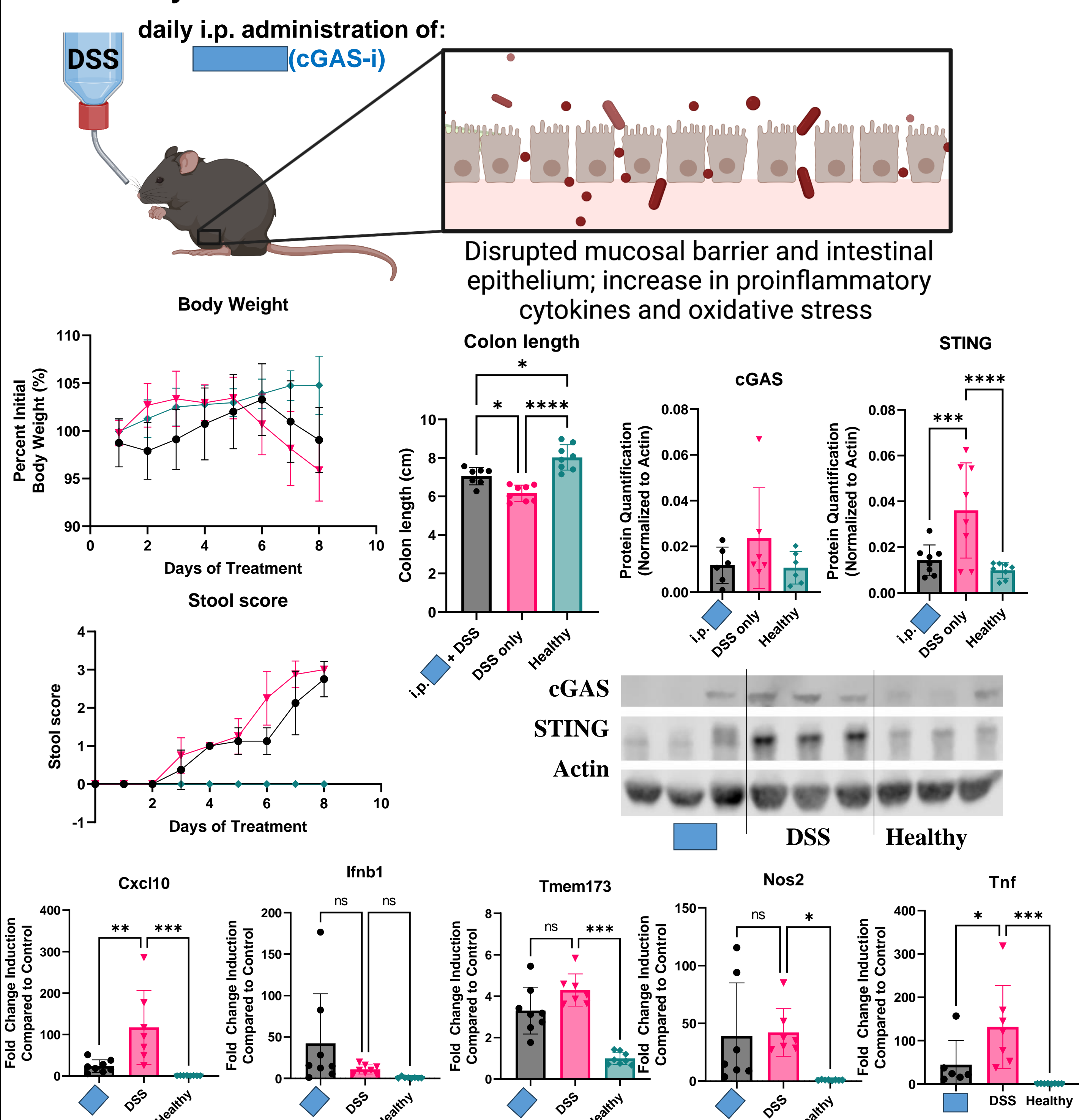
The Immune Microenvironment in Colitis

Immune Populations in the Lamina Propria



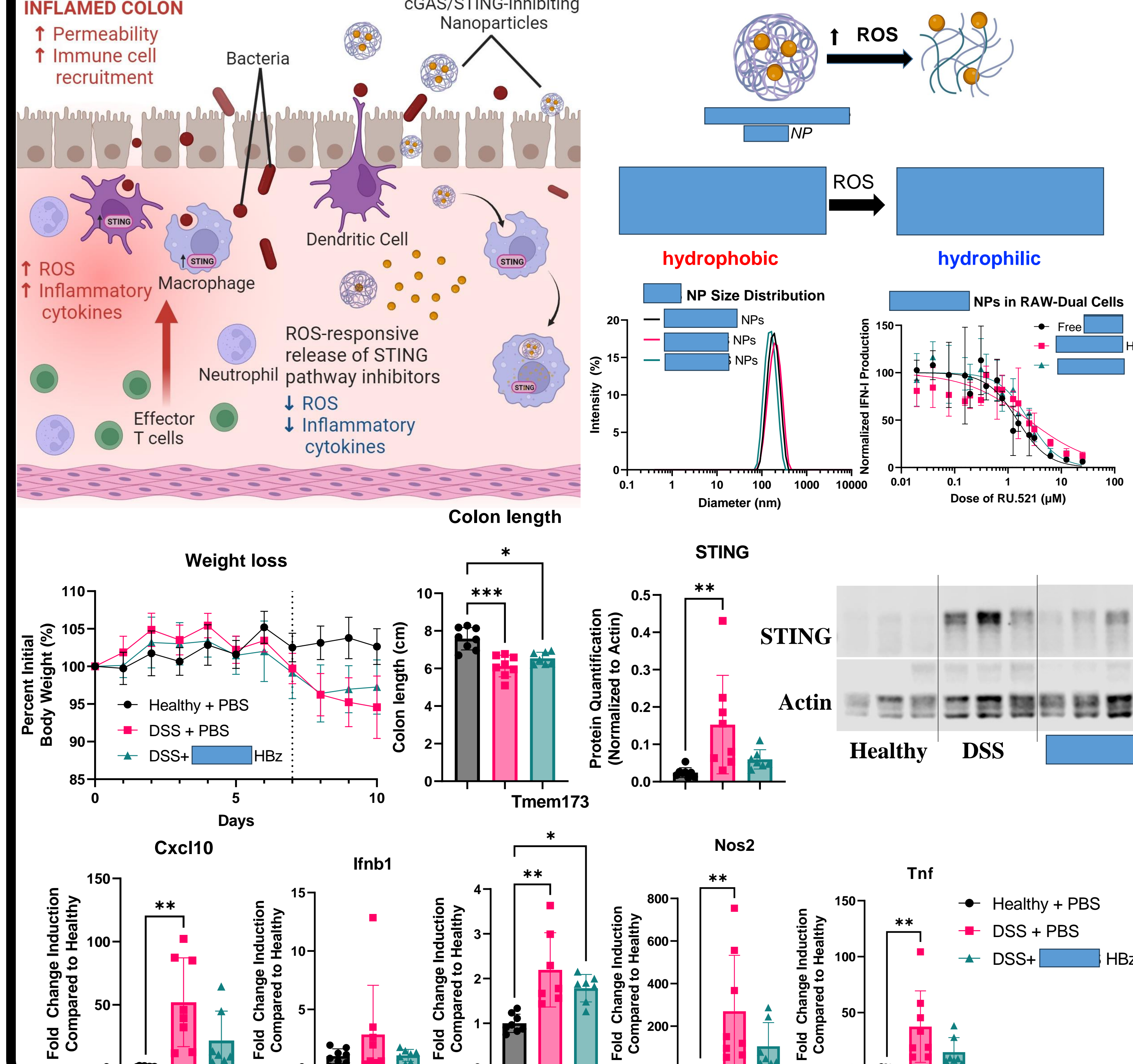
Systemic cGAS Inhibition in Colitis

Daily Administration of cGAS Inhibitor Ameliorates Disease



On-demand Delivery of cGAS Inhibitor in Colitis

RU PPS NPs Decrease Colitis Severity When Administered Every Other Day



About Lucinda

Lucinda is a Chemical and Biomolecular Engineering PhD candidate in Dr. John Wilson's Immunoengineering lab at Vanderbilt University. Her broad interests include biomaterials, nanotechnology, and the drug delivery. She intends to defend her thesis in Spring/Summer 2024, and she hopes to work in Research & Development in the drug delivery field.

Skills

- Immunological and biological assays (cell culture, ELISA, flow cytometry, western blotting, RT-qPCR)
- Polymer synthesis (RAFT, TAGT, anionic ring opening)
- Nanoparticle formulation (oil-in-water emulsion, thin film hydration, flash nanoprecipitation, dropwise LNP formation)
- Mouse handling (scruffing, oral gavage, rectal enema, intra-peritoneal injection, blood collection, dissection)

Selected Awards & Fellowships

- NSF Graduate Research Fellowship
- Scientist Mentorship and Diversity Program Scholar
- Vanderbilt DDRC Pilot Grant (\$40k)
- Harold Stirling Vanderbilt Award
- Provost Graduate Fellowship

Contact info & resume



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Acknowledgments & Funding

