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My lab's RNA focus:

1. **Development of novel carriers for intracellular delivery of RNA therapeutics**

Collaborative potential:

1. **Delivery of any type of RNA therapeutics for various diseases (infectious diseases, cancer, neurodegenerative diseases, etc...) using our proprietary intracellular delivery platform**

Main methodologies:

1. **Synthesis of phase-separating peptides (PSPs) self-assembling into coacervate microdroplets (CMs)**
2. **Recruitment/packaging of mRNAs/siRNAs within the CMs during self-assembly,**
3. **Intracellular delivery of RNA therapeutics using our PSP CMs, including mRNA encoding for CRISPR-Cas9**
4. **Delivery into cell lines (healthy and tumor cells), including primary and immune cells**

Relevant publications and IPs

- **Phase-Separating Peptides for Direct Cytosolic Delivery and Redox-Activated Release of Macromolecular Therapeutics.** ***Nature Chemistry*** **vol. 14, 274-283,** 2022.
- **Redox-Responsive Phase-Separating Peptide as a Universal Delivery Vehicle for CRISPR/Cas9 Genome Editing Machinery,** ***ACS Nano 17,*** **16957-16606,** 2023.
- **Peptide Coacervates and Methods of Use Thereof,** US Patent No 11,179,342 B2.
- **Isolated Peptide For a Peptide Coacervate, and Methods of Use Thereof.** US Patent Application No 2023 0279 061.