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## **Development of a nanobased mRNA therapy for heart diseases**

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The goal of this research project is to advance the clinical application of newly developed nanoparticle formulations as a new solution for treating cardiac diseases with engineered mRNA, a novel and highly adaptable class of therapeutics.

In this project, we aim to evaluate nanoparticles that may target human cardiomyocytes derived from explanted myocardium ex vivo. These nanoparticles shall ultimately be used to deliver mRNAs that encode for factors previously demonstrated to elicit cardiomyocyte proliferation and cardiac regeneration in transgenic mice. Ultimately, this research seeks to pioneer modular mRNA-based therapies that will pave the way to facilitate treatment of cardiac diseases and improve patient outcomes.

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