



Houston Methodist
Academic Institute

CENTER FOR RNA THERAPEUTICS

LEADING RNA MEDICINE

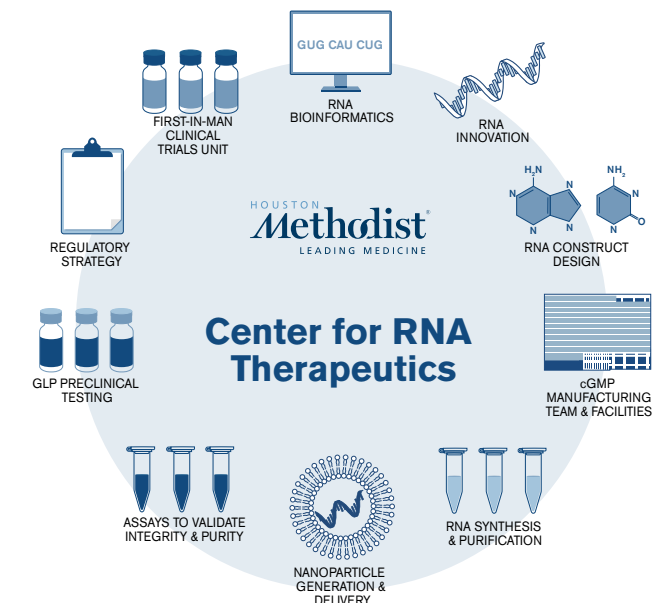
The mission of The Center for RNA Therapeutics
at Houston Methodist is:

- (1) to perform cutting-edge research that generates innovative discoveries in RNA biology
- (2) to translate our findings into transformative RNA therapeutics
- (3) to democratize RNA therapeutics by offering academic groups and companies a pathway to take their RNA research from bench to bedside

CENTER FOR RNA THERAPEUTICS

The Center for RNA Therapeutics has developed infrastructure to create, manufacture, test, develop and implement first in man clinical trials. The Center for RNA Therapeutics is enriched by scientists with skills in RNA biology that are implementing new research findings into all aspects of RNA therapeutic development to provide the most current products and technologies to all researchers. The Center for RNA Therapeutics along with commitment from Houston Methodist Hospital Research Institute also offer GLP/ GMP manufacturing and GLP animal testing and can generate all preclinical data required for IND submissions.

In collaboration with the Department of Nanomedicine, we also offer encapsulation of the RNA into lipid nanoparticles. Our philosophy is to democratize RNA, and therefore we offer these RNAs at affordable prices and quick turn-around times. Our services can be effective research tools for basic studies, or therapeutics for those wanting to develop them. Thus, everyone in research may find benefit from our services. Another service we offer is our expertise in using these tools, and experimental design in both an academic research setting as well as translational projects that are scaled up to move towards the clinic.



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Houston Methodist Academic Institute
Center for RNA Therapeutics

houstonmethodist.org/rna-therapeutics
houstonmethodist.org/rnacore

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CENTER FOR RNA THERAPEUTICS



RNA SERVICES

The RNACore provides services for the development and generation of high-fidelity mRNA, mmRNA, and long noncoding RNA for any gene/loci of interest. With the use of an error-free plasmid template and efficient, fast construct generation, we can provide a wide range of ready made and custom RNA molecules for any desired species, with various specified modifications.

The RNACore produces high-fidelity research and clinical-grade RNA, including:

- mRNA
- Modified mRNA (mmRNA)
- Self amplifying RNA
- Encapsulation of Lipid Nanoparticles
- Bicistronic constructs

RNA can be produced for any species or any loci of interest, and can incorporate any of the following modifications:

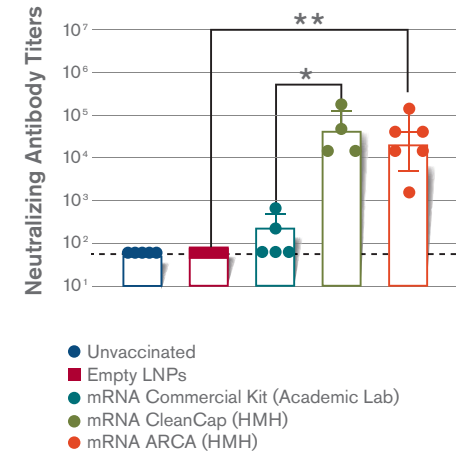
- Modified Nucleotides
- 5' ARCA or CleanCap
- Alternative polyA tails
- Sequence optimization
- Custom sequences

RNA can be generated as research or clinical grade. The RNACore is now offering UltraPure RNA, which has been HPLC purified to remove immunogenic byproducts and impurities.

RNA Therapeutics Supporting Investigators

Within past seven years:

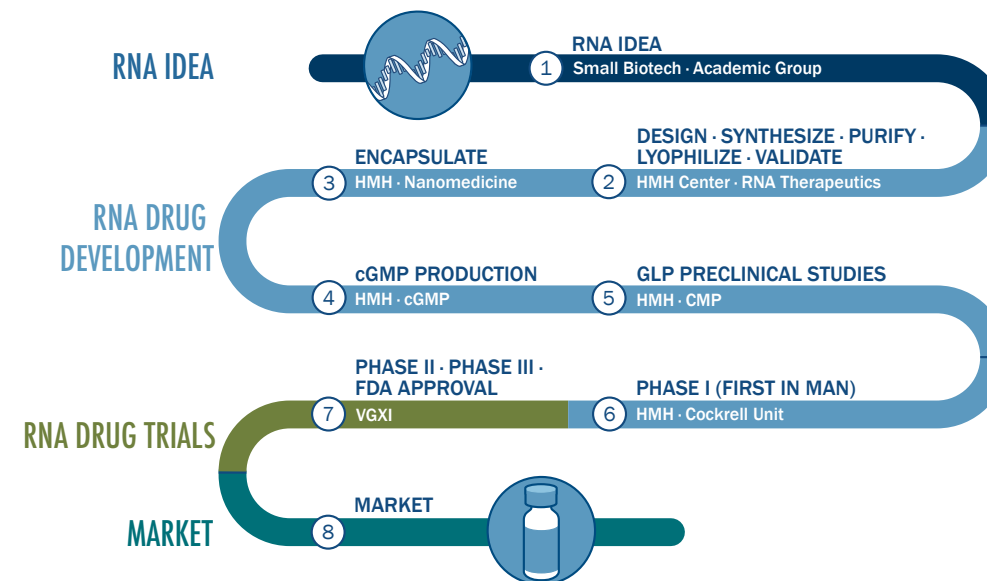
- Manufactured for 10 small biotech companies
- Fulfilled over 300 orders from more than 75 different clients
- Designed and developed over 250 unique RNA constructs
- Fulfilled 80 requests for analytical services
- Consulted for 12 companies on RNA design, manufacturing, assessment, and delivery
- Published 26 manuscripts



An example of the superiority of mRNA vaccines made by our Center at Houston Methodist and that made in an external academic lab as assessed by the immune response of vaccinated animals. Attention to sequence, structure, base modifications, purification, encapsulation and other factors can improve translational efficiency and efficacy of RNA products.

ROADMAP TO THE CLINIC

Our roadmap to the clinic can help you translate your ideas and take your product to the clinic. Our Center is enriched by scientists with skills in RNA construct design, synthesis, purification, and validation; a GLP program to generate pre-clinical data for IND submissions; a cGMP team with clean rooms to manufacture clinical grade RNA therapeutics; a first-in-man clinical trials unit; and faculty collaborators in the Department of Nanomedicine who devise customized solutions for RNA delivery.



The Houston Methodist Center for RNA Therapeutics received the Vaccine Industry Award for the Best Academic Team Research Award at the 2021 World Vaccine Congress. The Center was recognized for its work as an academic research organization supporting small companies and academic groups in their development and testing of mRNA Therapeutics.

CPRIT FUNDING

The RNACore funded by CPRIT, can generate customized RNA constructs for cancer biologist and has allowed the cores researchers to be able to optimize new methods for RNA delivery.

The CPRIT RNACore at the Houston Methodist Research Institute will help Texas scientists to make breakthrough discoveries, and will help Texas physician investigators turn these discoveries into transformational therapies for cancer patients.