

## Frequently Asked Questions

### About the RNAcore

#### 1. Where is the RNAcore located?

The RNAcore is located within the Research Institute of the Houston Methodist Hospital, in the heart of the Texas Medical Center. Our main office is on the 10<sup>th</sup> floor (south wing) of the Houston Methodist Research Institute Building (6670 Bertner Avenue, Houston, TX 77030).

#### 2. How do I contact the RNAcore?

You may contact the RNAcore either through email ([RNAcore@houstonmethodist.org](mailto:RNAcore@houstonmethodist.org)) or by telephone 713.441.3927. We are available to respond to calls during business hours, between 8am and 5pm (CST), Monday through Friday (excluding holidays). **When can I expect a response to my messages?**

Typically, within one business day of receiving your message.

#### 3. I just received my order. How do I rate your products/services?

Please click the following link to be directed to our [customer survey](#). We appreciate all feedback!  
<https://www.surveymonkey.com/r/PBWQTJ9>

## Ordering from the RNAcore

### 4. How do I request a quote?

To request a price quote, please contact the RNAcore (see FAQ No. 2- “How do I contact the RNAcore?”).

### 5. How do I order RNA products from the RNAcore?

To order from the RNAcore, a customer has two options:

(1) Submit a request through RNAcore’s Sales Support (refer to FAQ No. 7).

(2) Set up an account with *iLab* and order through the RNAcore’s automated *iLab* ordering system, accessible via Internet at <https://my.ilabsolutions.com/account/login>.

### 6. How do I request an order through the RNAcore’s Sales Support?

Please send your request via e-mail to [RNAcore@houstonmethodist.org](mailto:RNAcore@houstonmethodist.org). We will typically reply within one business day with an order form to be filled out and returned, requesting the following information. For quicker processing, please have the following information ready:

Construct name/gene	Providing plasmid (y/n)	Amount (ug)	Concentration* (ug/ul)	RNA Buffer (EDTA, water, dehydrated)	HPLC purification (y/n)	Modifications (up to 2)	Encapsulation (y/n)

\*Concentration of samples is a standard of 1.0ug/ul. Please note if you require a higher concentration and aliquoted.

### 7. What is *iLab*?

*iLab* is a web platform for placing ordering requests and processing payment. Various institutions use *iLab* for selling products and services. To access and register for *iLab*, please visit their website: <https://my.ilabsolutions.com/account/login>. For more detailed directions on how to register for *iLab*, please see the following FAQs.

## 8. How do I complete a service request through *iLab*?

- I. Complete the account sign-up form, which is available through the following link:  
[https://my.ilabsolutions.com/service\\_center/show\\_external/3311](https://my.ilabsolutions.com/service_center/show_external/3311)
- II. You will receive an email with account information and basic instructions once your account has been approved.
- III. Once you are signed up, please find HMRI RNAcore from the list of cores, and request access to our specific core.
- IV. Using your login credentials, you can place orders, as follows:
  - a. Navigate to the core page: [https://my.ilabsolutions.com/service\\_center/show\\_external/3311](https://my.ilabsolutions.com/service_center/show_external/3311)
  - b. Login by clicking the *Login* button in the upper right-hand corner of the page
  - c. Click the *Request Services* tab. Identify which category of product you would like: Immediately Available or Custom RNA Synthesis.
  - d. Click on the *Initiate Request* button next to the service of interest. You will be asked to complete a form and provide payment information for your request before submitting the request to the RNAcore.
  - e. The RNAcore will review your request and generate an official quote for your approval.
  - f. Once the request has been agreed upon by you and the RNAcore, *iLab* will seek authorization from the designated principal investigator (PI).
  - g. We will begin the project and inform you of the anticipated delivery date, as well as relevant milestones.

## 9. The *iLab* instructions you provided did not work. How do I get additional help?

More detailed instructions are available in the [customer manual](#), or contact [support@ilabsolutions.com](mailto:support@ilabsolutions.com). Please also feel free to contact the RNAcore at [RNAcore@houstonmethodist.org](mailto:RNAcore@houstonmethodist.org) or at 713.363.9043 / 713.441.3927 if we can be of further assistance in any way.

## 10. To whom do I send payment?

Please send all payments for the RNAcore to the following address:

The Methodist Hospital Research Institute  
Attn: Andrew Zhang for RNAcore  
Office of Grants & Contracts  
P.O Box 4805  
Houston, TX 77210-4805  
Tax ID: 87-0721923  
Reference: 64502231

## RNAcore's RNA Products

### 11. What types of RNA molecules do you offer?

The RNAcore generates high-fidelity research- and cGMP-grade RNA through the process of *in vitro* transcription. We make most types of RNA including:

- mRNA
- modified mRNA (mmRNA)
- self- amplifying RNA
- Long noncoding RNA
- Customized bicistronic constructs
- Constructs with reporter genes
- Lyophilization

## **12. What is the difference between modified and non-modified RNA? Which is better?**

Non-modified RNA is generated by in vitro transcription with the regular standard nucleotides. Modified RNA is also generated by in vitro transcription. However, this process can use non-standard nucleotides such as pseudouridine, N1-methylpseudouridine, and 5-Methylcytidine. Incorporation of these non-standard nucleotides can confer enhanced protein expression since these nucleotides make the RNA molecule less immunogenic and can improve its stability. Thus, for vaccine development and therapeutic purposes, incorporation of these non-standard nucleotides can be highly beneficial.

## **13. Do you make personalized RNA constructs?**

Yes, the RNAcore can generate customized RNA molecules for any species and any loci of interest.

## **14. How should RNA be stored and for how long? Can it be stored longer?**

RNA generated from the RNAcore has a recommended storage of up to 1 year at -80°C. Avoidance of freeze-thaw cycles is recommended.

## **15. What solvents can be used to re-suspend the RNA?**

RNA is typically provided in TE buffer (Tris-EDTA). However, at the customer's request, we can provide RNA in water or as a dehydrated product.

## **16. What concentration is the RNA product sold at?**

We typically provide our customers with IVT RNA at a concentration of 1 µg/µL. However, this can be altered or adapted to the customer's requested concentration.

## **17. What backbone plasmid template do you use?**

The template plasmid contains a specialized 5'UTR (Untranslated Region), 3'UTR, and Poly(A)-tail (150 bp). Template plasmids can also be edited to the customer's desired specifications and applications.

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## 18. How do you make your RNA? By what process?

We manufacture our RNA using the process of *in vitro* transcription. We do not generate nucleotides through synthesis.

## 19. Do you purify your RNA? By what method?

Our core utilizes various methods to purify our IVT RNA, ranging from ion exchange chromatography to HPLC purification, upon request.

## 20. Do you make cGMP-grade RNA? How is it requested?

We are capable of making cGMP-grade RNA. To request cGMP-grade RNA, **What type of quality control (QC) testing is done on the RNA products?**

A list of some of the quality control testing available is listed below:

- Nucleic acid purity and concentration by UV Spectrophotometry
- Nucleic acid integrity by Bioanalyzer/TAPE station (microfluidic electrophoresis)
- Integrity and purity assessment by HPLC
- Impurity assessment of Residual template DNA by qPCR
- Impurity assessment of Residual E. Coli DNA by qPCR
- Endotoxin testing of mRNA samples with the Nexgen-MCS

## 21. Do you provide Certificates of Analysis?

Yes, all our products, research- and cGMP-grade RNA, come with a full Certificate of Analysis.

## 22. How long does it take to make RNA? Will I receive an estimated completion date?

Since each project involves different production and manufacturing requirements, we will send you an email notification at the beginning of each of our product development and manufacturing phases.

## RNAcore Procedures and Suggested Protocols/SOPs

### 23. What are the suggested concentrations and amounts of RNA for *in vitro* transfection? Specifically, for nGFP transfection?

We recommend that you optimize your protocols, taking into consideration optimal cell seeding concentration, transfection-agent to RNA-concentration ratio, and optimal protein expression and stability. For a generic transfection protocol, please visit our website:

<http://www.houstonmethodist.com/rnacore>.

## Other RNAcore Products

### 24. Do you make DNA?

We do not currently make or synthesize DNA for sale.

### 25. Do you make siRNAs?

We do not currently make or synthesize siRNAs.

## RNAcore Services

### 26. What other services do you provide?

In addition to developing and manufacturing IVT RNA, we provide the following services, at the customer's request:

- RNA Analytical Services (refer to FAQ No. 22)
- Encapsulation Services (Lipid Nanoparticles)

### 27. Do you do offer RNA expression analysis as a service?

We currently do not perform RNA expression analysis.

### 28. Do you perform RNA functional studies as a service?

We currently do not provide functional study services.