

IVT mRNA Synthesis Services

High-quality mRNA serves as a crucial tool in various scientific, medical, and biotechnological applications, especially in the mRNA vaccine and therapy development. The reliability and purity of the mRNA are essential for achieving accurate and reproducible results.

In vitro transcribed (IVT) mRNA synthesis lies in its ability to provide researchers and biotechnologists with a customizable, rapid, and controlled method for generating high-quality mRNA molecules for diverse applications.

At GenCefe Biotech, we specialize in providing cutting-edge IVT mRNA synthesis services. Our state-of-the-art facilities and experienced team ensure the production of high-quality synthetic mRNA tailored to meet your specific research or discovery needs.

Service Features

- One-stop solution: from codon optimization, gene synthesis, plasmid preparation, to in vitro transcription of mRNA and purification
- Flexible customized specifications: various modifications, end-capping, quantity, purity are available
- Strict quality control: standard QC items and a variety of customized QC items can be provided according to customer requirements

Service Workflow



Codon Optimization:

Proprietary AI-aided codon optimization technology platform effectively improves protein expression

Gene Synthesis:

Track record of synthesizing gene sequences of various difficulties and lengths; 100% accuracy verified by Sanger sequencing

Plasmid Preparation:

Flexible preparation specifications, generate ready-to-use linearized plasmid DNA for in vitro transcription

In Vitro Transcription:

Self-developed RNA polymerase significantly improves transcription efficiency

QC and Delivery:

Comprehensive purification methods to ensure high-purity mRNA products; customized QC items are available upon request

5' Cap	Poly A Tail	Modifications
Cap0 (m7GpppN) Cap1 (m7GpppNm) Cap2 (m7GpppNmNm) Uncapped	110±5 nt A Tail Custom Tail No Tail	Pseudouridine N1-Me-pUTP (m1Ψ) 5-methoxy-U N6-methyl-A Unmodified

Service Specifications

Step	Description	Turnaround Time	Deliverables
Gene Synthesis	Codon optimization Gene Synthesis and cloning into vector	Starting from 2 weeks	Sanger sequencing result for the synthesized gene Lyophilized or liquid mRNA*
Plasmid Preparation	Plasmid preparation Plasmid linearization		
IVT mRNA	20 µg-2 mg	1-2 weeks	
	5 mg	2-3 weeks	
	>5 mg	Get a Quote	
Standard QC items	Appearance, mRNA length, sequence accuracy, RNA concentration, A260/280	/	
Customized QC items (optional, extra charge)	Purity, PolyA tailing efficiency, capping efficiency, template DNA residue, protein residue, RNase residue, dsRNA detection, endotoxin content, bioburden	Get a Quote	

* LNP-encapsulated mRNA cannot be lyophilized and can only be shipped in liquid form at low temperatures, which will incur additional dry ice and shipping costs.

Off-the-shelf mRNA Products:

Product Name	Size	Turnaround Time
copGFP mRNA	100 µg/tube	3-5 days
mCherry mRNA	100 µg/tube	3-5 days
Luciferase mRNA	100 µg/tube	3-5 days
Cas9 mRNA	100 µg/tube	3-5 days

GenCefe Biotech

+1 408-828-0438; +86 510-85220969

www.gencefebio.com

gene@gencefebio.com

17800 Castleton St., Ste 665, City of Industry, CA 91748, USA
35-307 Changjiang South Road, Xinwu District, Wuxi, Jiangsu Province 214000, China