



One-Stop CRDMO from DNA to LNP

Your Trusted Partner in Nucleic Acid Therapeutics & CGT

About CATUG

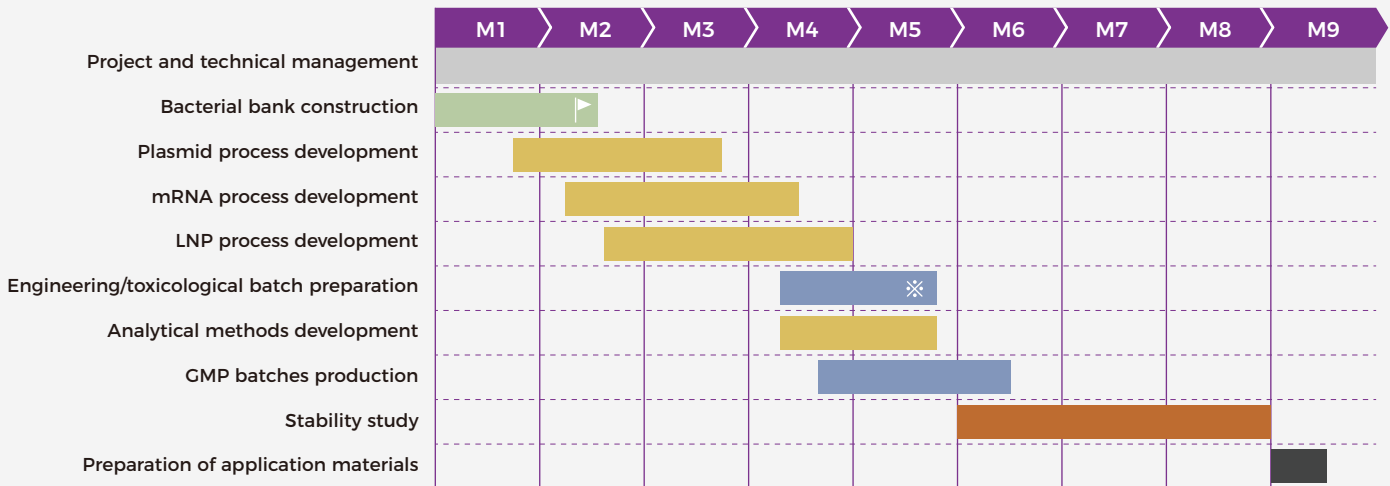
CATUG is a boutique one-stop CRDMO empowering the global next-generation therapeutics. Founded in 2021, the company is powered by approximately 200 professionals and state-of-the-art R&D and GMP facilities across Asia, the United States, and Europe. Guided by its four core “F” values — Focus, First, Fast, Flexible—CATUG delivers full-lifecycle support from R&D through global commercialization, providing comprehensive end-to-end solutions across DNA, RNA, (t)LNP, protein, and Fill & Finish (F&F). With quality and efficiency at the core, CATUG bridges cutting-edge science with robust, scalable execution to accelerate clients’ innovative therapies worldwide while ensuring uncompromising quality, regulatory compliance, and speed-to-market.

End-to-End Solutions



Service Phase	Capabilities
Sequence Design	DNA/RNA optimization for enhanced protein expression
Plasmid Services	- Bacterial Strain Engineering
	- ≥90% supercoiled plasmid
	- ≥95% linearized plasmid
RNA Synthesis	- Endotoxin-free and RNase-free preparation
	- IVT mRNA/circRNA/saRNA from 100 µg to 30 g
	- One-pot co-transcriptional capping with various capping analogs
Protein	- Two-step enzymatic capping
	- Low dsRNA content, high purity and high capping efficiency
LNP Formulation	- rProtein, polypeptide, nanobody
	- Formulation screening
	- Multi-payload encapsulation (RNA+RNA, RNA+DNA)
	- Antibody-LNP conjugates
Analytical QC	- Process development of -20 C storage & Lyophilized products
	- Precise size control, low PDI, and high encapsulation efficiency
	70+ methods for analytical methods & stability study

5.5 Months, end to end GMP production for an mRNA-LNP project



Facilities & Capacity



- GMP Manufacturing Area: Over 100,000 sq ft
- Production Lines:
 - Plasmid GMP
 - 2*50L, 1*100L & 1*500L
 - mRNA+LNP GMP
 - 2L mRNA + 20L LNP (PNI GMP)
 - 20L mRNA+ 500L Max Mix™ LNP
 - Fill & Finish
 - 100,000 vials/batch; 2-10mL vial
 - 12,000 vials/batch (lyophilized)
- Quality Control Labs: Fully equipped analytical testing facilities for complete quality assurance

Compliance:

CATUG has established an effective and unified group quality assurance system to support the production and testing of GMP products, following relevant regulatory guidelines such as NMPA, FDA, and EMA. It is also referred to relevant guidelines such as ICH, WHO, and PDA, and relies on an independent quality department to supervise all GMP operations. CATUG quality system meets the clinical stages of drug regulatory requirements of NMPA, FDA, and EMA. CATUG has also passed the ISO9001 and EU QP certifications.

External Audit Pass Rate: 100%

- 6 expert audits
- 30+ client approvals
- 60+ site validations



Analytical Methods

Compendial Methods

- Appearance
- pH
- Osmolality
- Particulate Matter
- Bacterial Endotoxin
- Sterility
- Container Integrity

General Methods

- Identification
- Content Uniformity
- Residual Solvent
- Elemental Impurities

mRNA and saRNA specific methods

- Concentration
- Purity/Impurities
- Capping Efficiency
- Tailing%
- PolyA Length Distribution
- Potency
- Residual DNA
- Residual Protein
- dsRNA

LNP Specific Methods

- Lipid ID
- Lipid Concentration
- Particle Size
- Polydispersity
- Zeta Potential
- pKa
- Encapsulation Percentage
- Purity/Impurities
- Structure
- Surface Charge
- Subvisible Particle
- Empty LNP Percentage

LNP-mAb

- mAb Concentration
- Residual mAb
- mAb Copy Number

In Vitro Potency

- Cell-free Translation
- Cell Potency

Ready-to-Use Product List

Type	Catalog #	CatPure™ RNA	Chemical Modification	Application
mRNA	CT039	Cas9 mRNA	N1mΨ	Gene editing
	CT060	EGFP mRNA	N1mΨ	Reporter gene
	CT072	Fluc mRNA	N1mΨ	Reporter gene
	CT119	mCherry mRNA	N1mΨ	Reporter gene
	CT134	EPO mRNA	N1mΨ	Protein Replacement
	CT151	AaCas12b mRNA	N1mΨ	Gene editing
	CT212	CD19 CAR mRNA	N1mΨ	Cell therapy
	CT222	OVA mRNA	5moU	Antigen
	CT228	Cre mRNA	N1mΨ	Gene editing
	CT229	tdTomato mRNA	N1mΨ	Reporter gene
circRNA	CT223	EGFP circRNA	UTP	Reporter gene
	CT224	Fluc circRNA	UTP	Reporter gene
	CT225	CD19 CAR circRNA	UTP	Cell therapy
saRNA	CT226	EGFP saRNA	5mC	Reporter gene
	CT227	Fluc saRNA	5mC	Reporter gene
	CT235	CD19 CAR saRNA	5mC	Cell therapy
Labeled mRNA	CT060-Cy3	EGFP-Cy3 mRNA	N1mΨ, Cy3-UTP	Reporter gene
	CT119-Cy5	mCherry-Cy5 mRNA	N1mΨ, Cy5-UTP	Reporter gene
dsRNA	CT50000/CT60000	dsRNA hairpin70	UTP, N1mΨ	dsRNA reference
	DS500	dsRNA 500	UTP, N1mΨ	dsRNA reference
	DS1000	dsRNA 1000	UTP, N1mΨ	dsRNA reference
	DS1500	dsRNA 1500	UTP, N1mΨ	dsRNA reference

*We can always add new catalog RNA products to meet clients' needs.