

# Unleashing the Potential of Messenger RNA (mRNA)

BioCina offers highest quality mRNA development and clinical and commercial manufacturing services.

# mRNA Offerings

Our expert mRNA team brings deep experience to every step of your program, from development through production.

We provide bespoke solutions to fit our client's specific needs, from pre-clinical development through commercial manufacturing.

We can perform more than 95% of testing in-house, which reduces the time and cost of our programs.

At our state-of-the-art cGMP facility, we meet the highest global regulatory standards, including US FDA and EMA.

### mRNA Manufacturing

In vitro

LNP Encapsulation

### mRNA Development and Manufacturing Scales

Stage	Equipment	Working Volume	Yield
Process Development	25 L Wave Reactor	.1-1L	Up to 6 g
	Non-Turbulent Microfluidic Mixing	20 μL – 1 L (Pre-Dilution)	Up to 4 L (0.25 g/L)
cGMP Manufacturing	25 L Wave Reactor	.35 – 5 L	Up to 30 g
	Non-Turbulent Microfluidic Mixing	1 – 50 L (Pre-Dilution)	Up to 40+ L (0.25 g/L)

## Typical mRNA / LNP Development and Manufacturing Timelines

3 Months

6 Months -

9 Months →

Process / Analytical Development

4 months to PD and AD completion, mRNA and LNP encapsulation processes ready to scale

Technology and Analytical Verification 6 months to ENG manufacture and disposition

8 months to cGMP batch disposition

cGMP Batch Manufacturing

