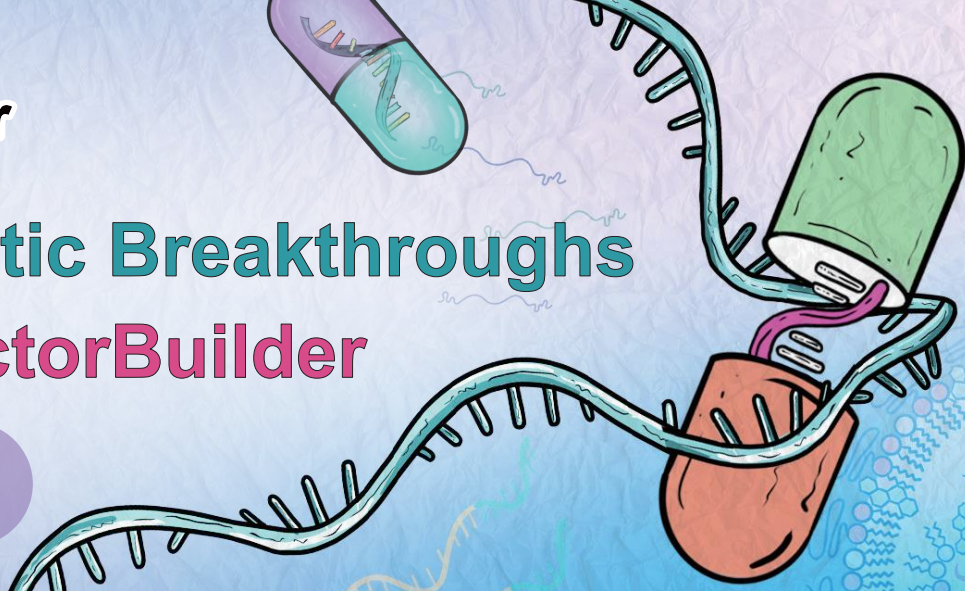


RNA Therapeutic Breakthroughs Begin with VectorBuilder

Therapeutic IVT RNA

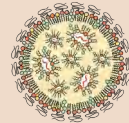


Services Offered

Therapeutic IVT RNA
Development



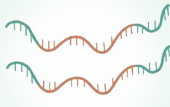
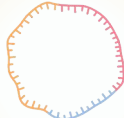

LNP Encapsulation



GMP Manufacturing



Comparison of Different Types of IVT RNA

	 mRNA	 circRNA	 saRNA
Structure	Linear; usually contains 5' cap, 5' UTR, ORF for GOI, 3' UTR, and polyA tail	Circular; usually contains IRES and ORF for GOI	Linear; usually contains 5' UTR, ORFs for replicase genes and GOI, 3' UTR, and polyA tail
Cap	Requires 5' Cap for stability and ribosome recruitment	No Cap; relies on IRES for ribosome recruitment	Requires 5' Cap for stability and ribosome recruitment
RNA length (nt)	100 ~ 10,000	1,000 ~ 5,000	7,000 ~ 10,000
Stability	Low	High	Low
Can modified nucleotides be added in production?	Yes	No	Yes
Expression level	Low	Medium	High
Expression duration	Short	Medium	Long
Immunogenicity	Low	Medium	High