Target selection	Payload design	Formulation	Preclinical testing	Quality control	Process development & manufacture	Clinical Testing
OUTCOMES						
Selection of disease indication/s and target antigen/s	• Methods for design and optimisation of payload. • DNA template production	Proprietary delivery systems that are safe and efficient and meet or exceed industry standards	Reactogenicity, immunogenicity, efficacy, maximum safety profile, tissue specific expression	Industry standard purification and quality controls are developed to ensure consistency and safety	Functional facilities for process development & (up to) gram scale clinical grade production of RNA payloads using current and future IVT and encapsulation technologies	Regulatory approvals for Phase 1 safety testing of Platform products
EXPERTISE						
Virology, immunology, vaccinology, molecular biology, RNA biology, computational biology	Molecular biology, nucleic acid preparation, analytical chemistry, protein and RNA chemistry	Synthetic and analytical chemistry, formulation science, biochemistry, molecular biology	• Cell and tissue • Immunology • small animal models	Chemistry, biochemistry process engineers	• RNA biology • biochemistry • Chemical/process engineers, GMP Production	Regulatory, clinical, safety
REQUIREMENTS						
Computational modelling	DNA fermentation & purification systems, RNA production, purification and QC	Facility for scaled production of LNP reagents and formulation methods	In-vivo vivariums and testing facilities	Purification facility to industry standards	State-of-art facilities and people for scalable, GMP manufacture of RNA product	Clinical trial providers, licensed and accredited laboratories
CROSS-CUTTING						

Sustainable reagent supply – local production of essential reagents to enable on-call supply during pandemic conditions
Requires State-of-art laboratories and people for process development and scalable manufacture of RNA payloads and reagents for formulation

Flagship Projects- RNA therapeutics developed that are of relevance to Aotearoa/Pacific
Requires Individual project expertise and knowledge, testing and model systems