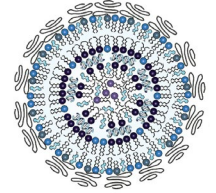


NM<sup>IN</sup>

NANOMEDICINES INNOVATION NETWORK  
RÉSEAU D'INNOVATION NANOMÉDECINES

NANO<sup>IN</sup>CORE



## NMIN's Legacy Initiative to Support Nanomedicine Investigators Across Canada

Operational Leads: Karen Chan, Miffy Cheng  
Core Leader: Pieter R Cullis  
Core Co-Leader: Christian Kastrup



NCE RCE



Webinar: 10 Jan 2022

## THE MISSION

- (1) To provide expert know-how and consultation
- (2) To develop high-quality, state-of-the-art lipid-based nanoparticles that enable *in vitro* screening and proof-of-concept (POC) animal studies
- (3) To standardize the physicochemical characterization in order to identify critical parameters
- (4) To provide benchmark materials for comparative studies



# FORMULATION SERVICES

- Custom-designed LNPs to encapsulate your cargo of choice:
  - siRNA
  - mRNA
  - Gapmers
  - Plasmids
  - Peptides
  - Small-molecule drugs
- Design LNP libraries to enable *in vitro* screening.
- Formulate LNP batch sizes suitable for proof-of-concept animal studies



# NANOPARTICLE CHARACTERIZATION SERVICES

- Standard assays performed:
  - Lipid quantification
  - Encapsulation efficiency
  - Particle size profile
  - Zeta potential measurements (if necessary)
- Cryogenic transmission electron microscopy  
(Service provided through the High Resolution Macromolecular Cryo-Electron Microscopy Facility @ UBC LSC)
  - NanoCore can help with image analysis if requested



# USING THE NANOCORE FACILITIES

- Facilities are restricted access, but can be coordinated
- Address:

UBC Life Sciences Centre Rm 5420  
2350 Health Sciences Mall  
Vancouver BC  
V6T 1Z3

- Equipment:
  - NanoAssemblr (Precision Nanosystems, Spark and Ignite)
  - Liposome extruder
  - Microfluidic pumps for LNP formulation via rapid mixing
  - Dynamic light scattering instrument (Malvern)
- \* A tour can be scheduled



# ORDERING NUCLEIC ACIDS VIA NANOCORE

- Partnership with Integrated DNA Technologies
- Online portal to order nucleic acids at a discount  
<https://www.idtdna.com/nanocore>
- Ships directly to the NanoCore



# SUPPORT FOR GRANT APPLICATIONS

- We can provide a letter of support for NanoCore users



The Nanomedicines Innovation Network (NMIN)

## NanoCore vs. NanoVation Therapeutics

### NanoCore

- (1) Focused on academia
- (2) Three industry collaborations but ONLY services  
(no R&D, no IP involved)

### NanoVation

- (1) Focused on industry
- (2) R&D projects - IP development

*Note: NanoVation is a separate entity with its own labs and offices. None of the employees of NanoVation has any role in the NanoCore. Dominik Witzigmann, the former NanoCore Lead, only functions as scientific and operational advisor for the NanoCore during the transition phase.*





## CONTACT INFORMATION

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