

LAPIS: Crafting precision in therapeutic delivery, one layer at a time

Sabine den Roover, Tatiana Mashel, Sigrid D'haese and Joeri Aerts

Cross-regional pitch and match session

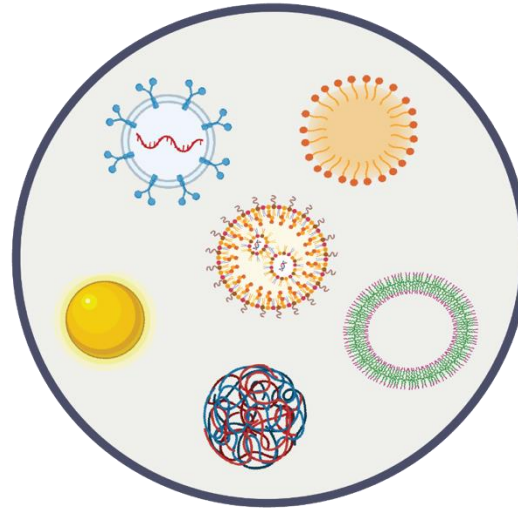
12-06-2025



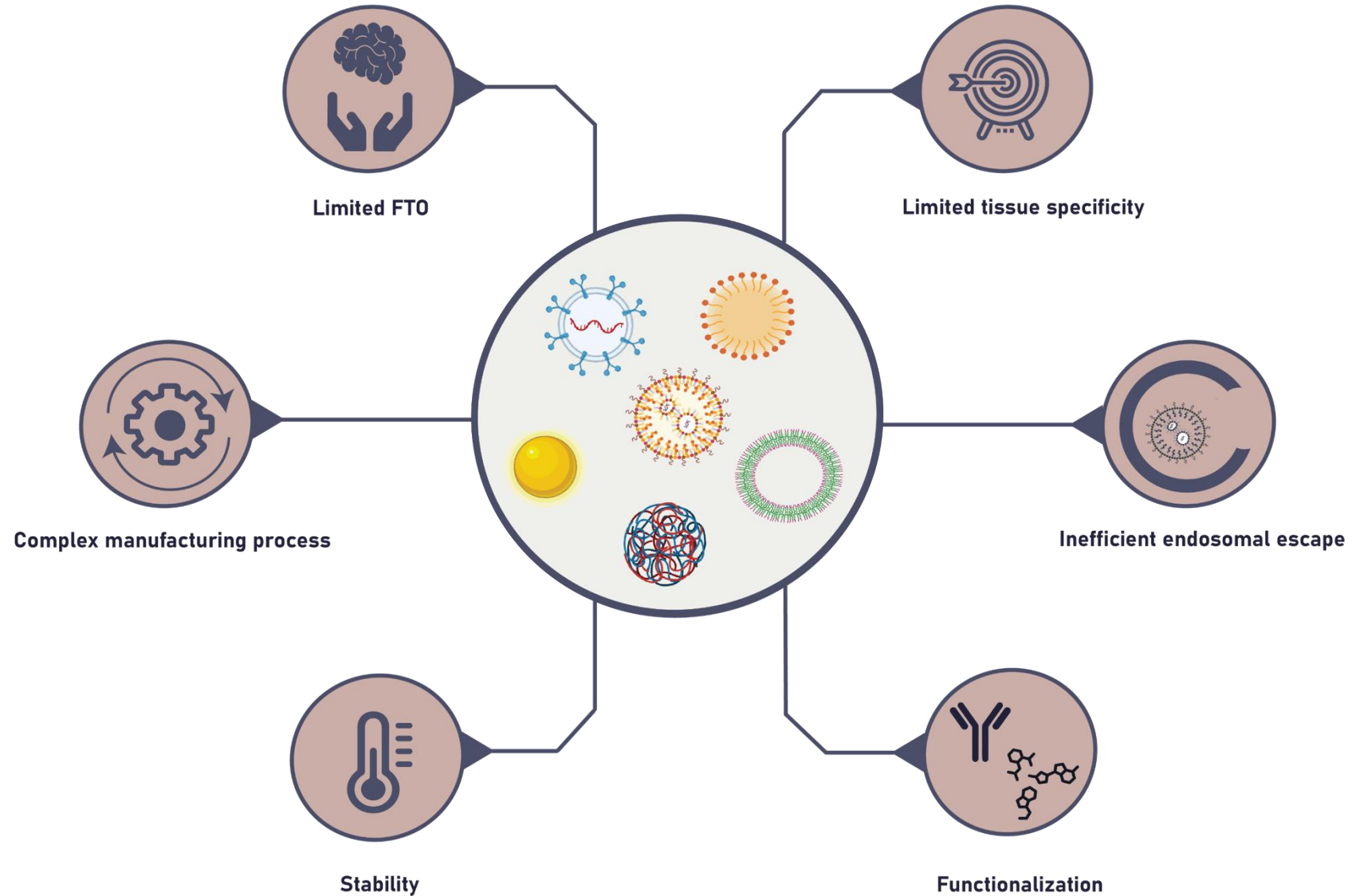
BIOWIN



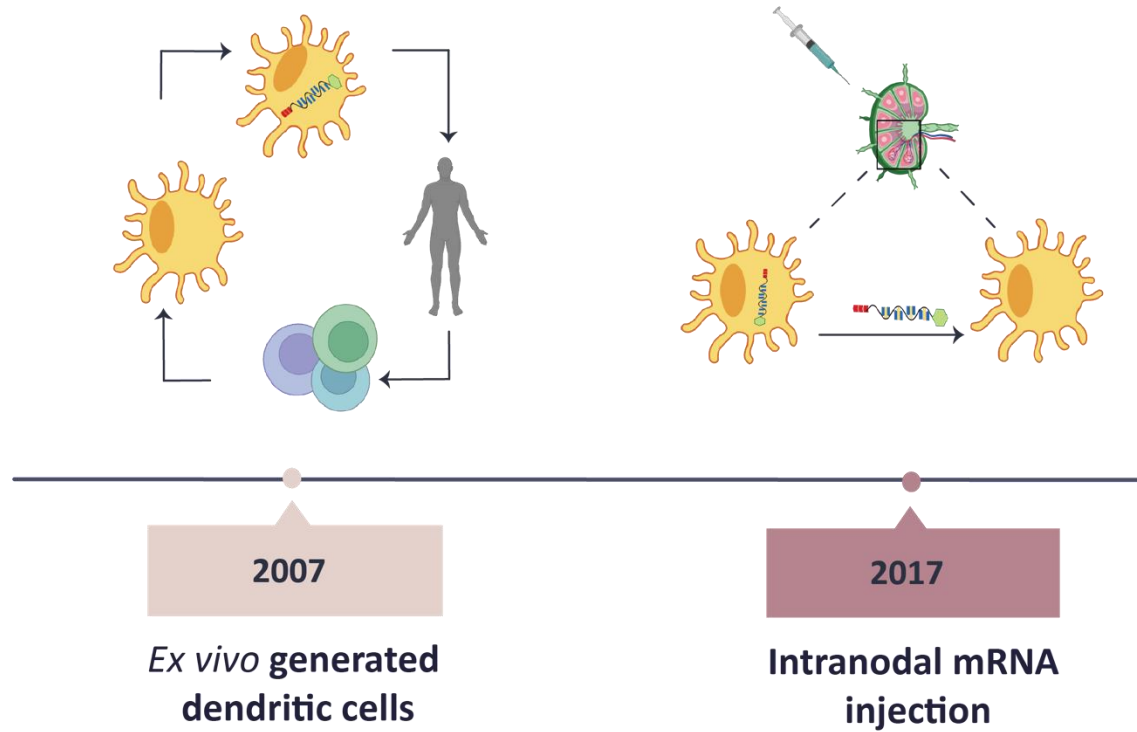
Current mRNA formulation landscape



Limitations of current mRNA formulations



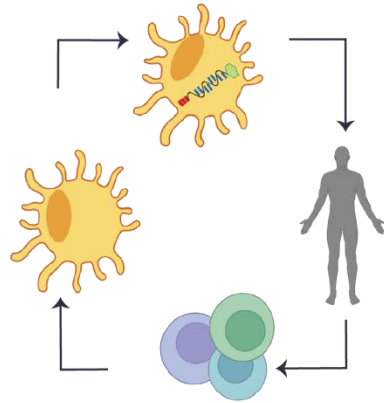
Expertise in mRNA vaccine technology



Allard SD *et al.*, 2012, Clin. Immunol.

Tjok P *et al.*, 2019, J Transl. Med

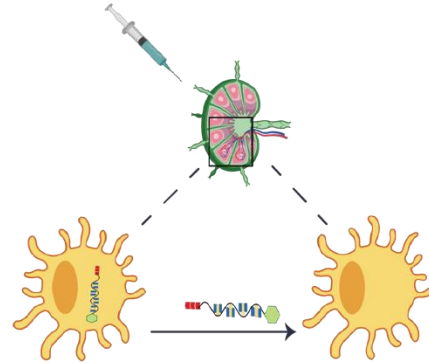
Expertise in mRNA vaccine technology



2007

Ex vivo generated
dendritic cells

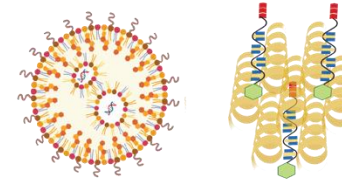
Allard SD *et al.*, 2012, Clin. Immunol.



2017

Intranodal mRNA
injection

Tjok P *et al.*, 2019, J Transl. Med

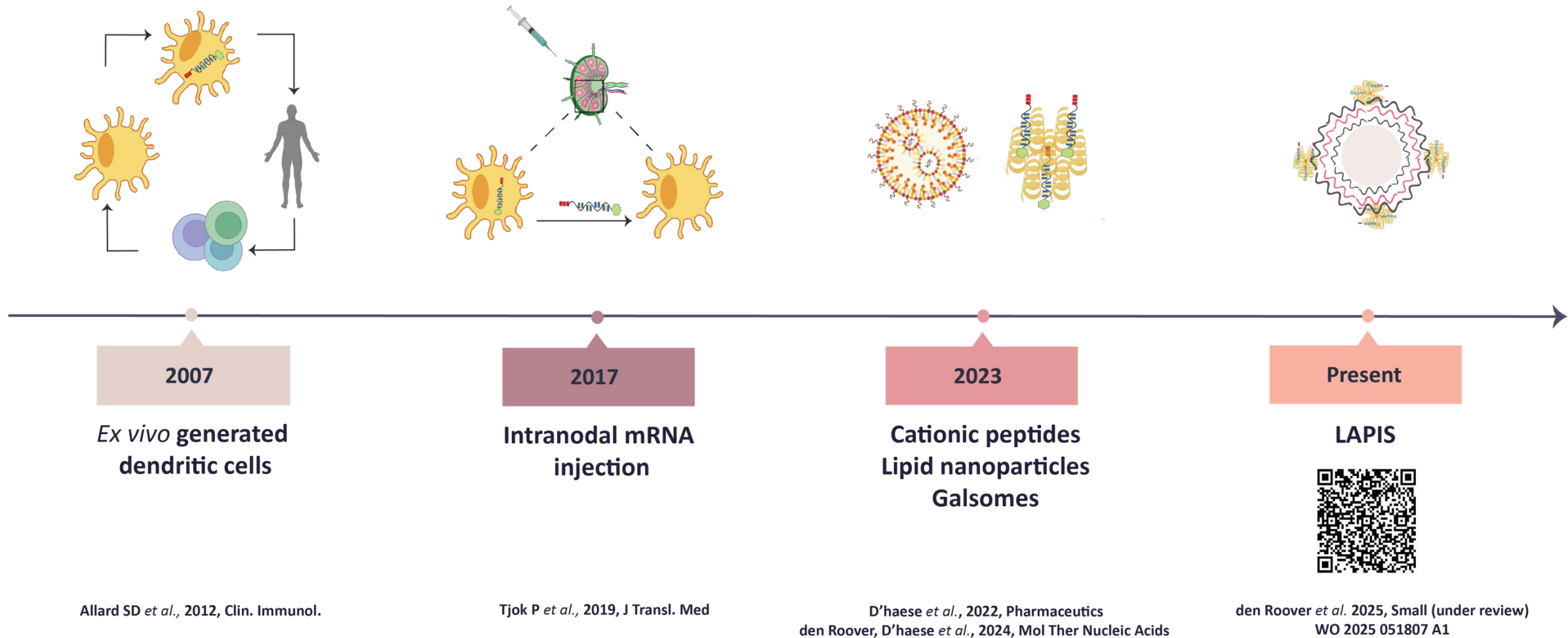


2023

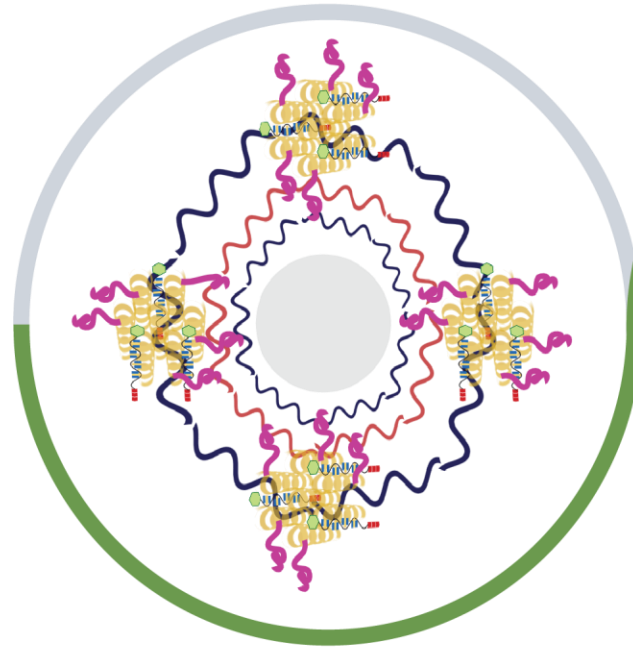
Cationic peptides
Lipid nanoparticles
Galsomes

D'haese *et al.*, 2022, Pharmaceuticals
den Roover, D'haese *et al.*, 2024, Mol Ther Nucleic Acids

Expertise in mRNA vaccine technology



Core strengths



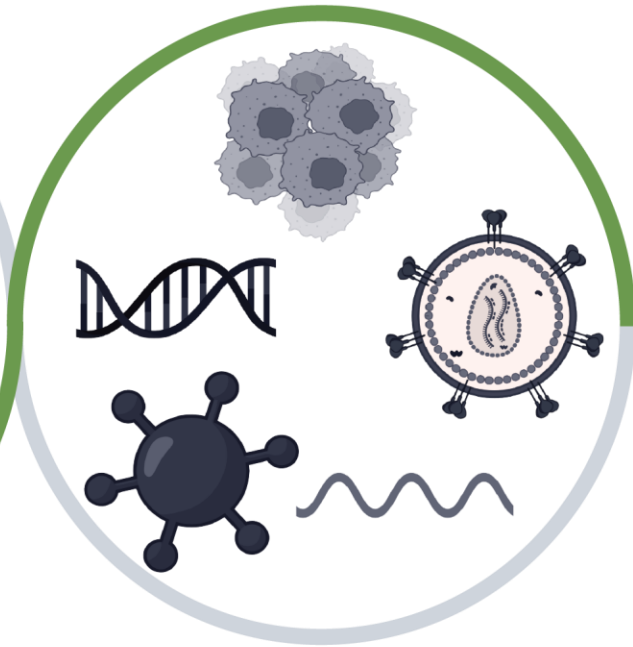
Modular properties



Cost-effective

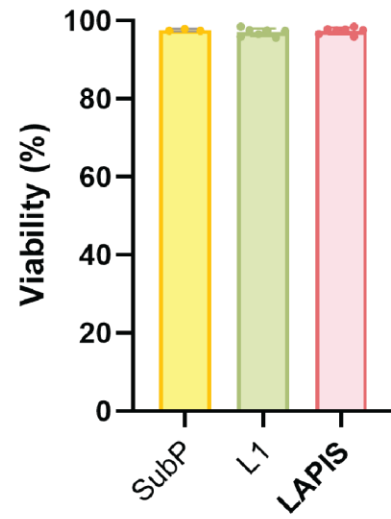


Scalable



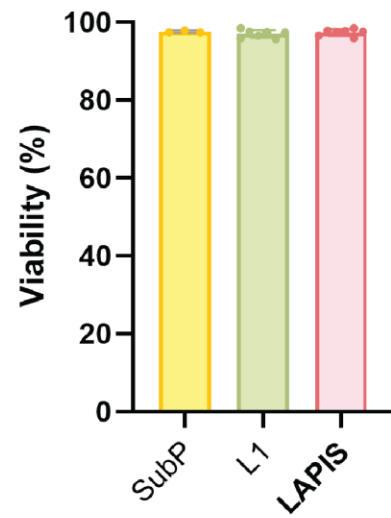
Broad application potential

LAPIS outperforms SubP

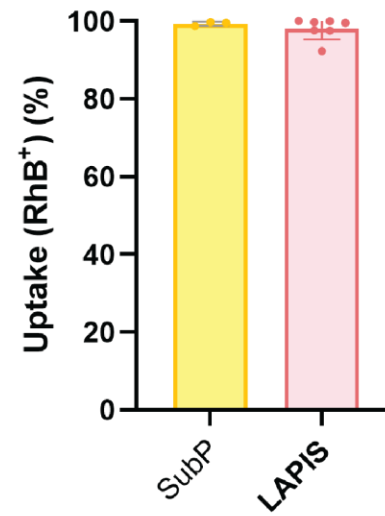


Non-cytotoxic

LAPIS outperforms SubP

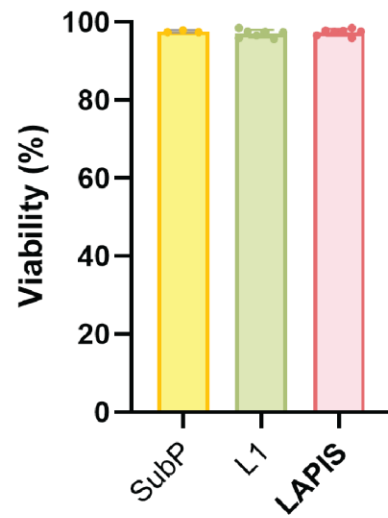


Non-cytotoxic

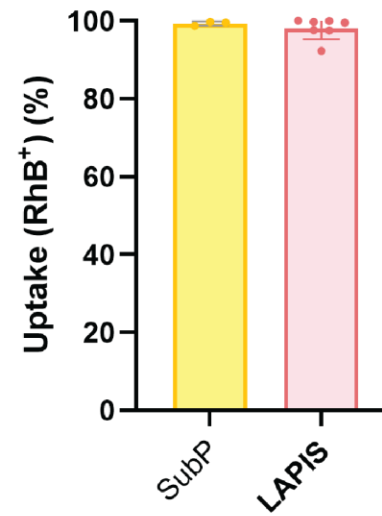


Efficient cellular uptake

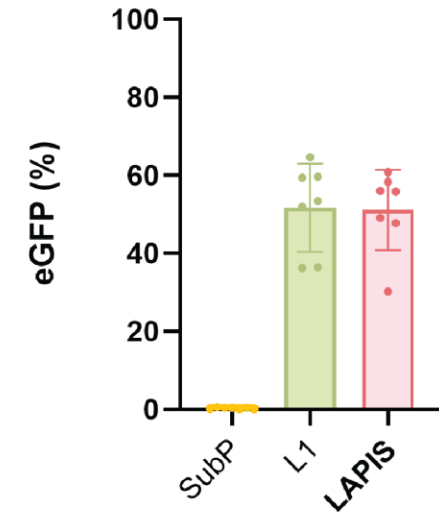
LAPIS outperforms SubP



Non-cytotoxic



Efficient cellular uptake



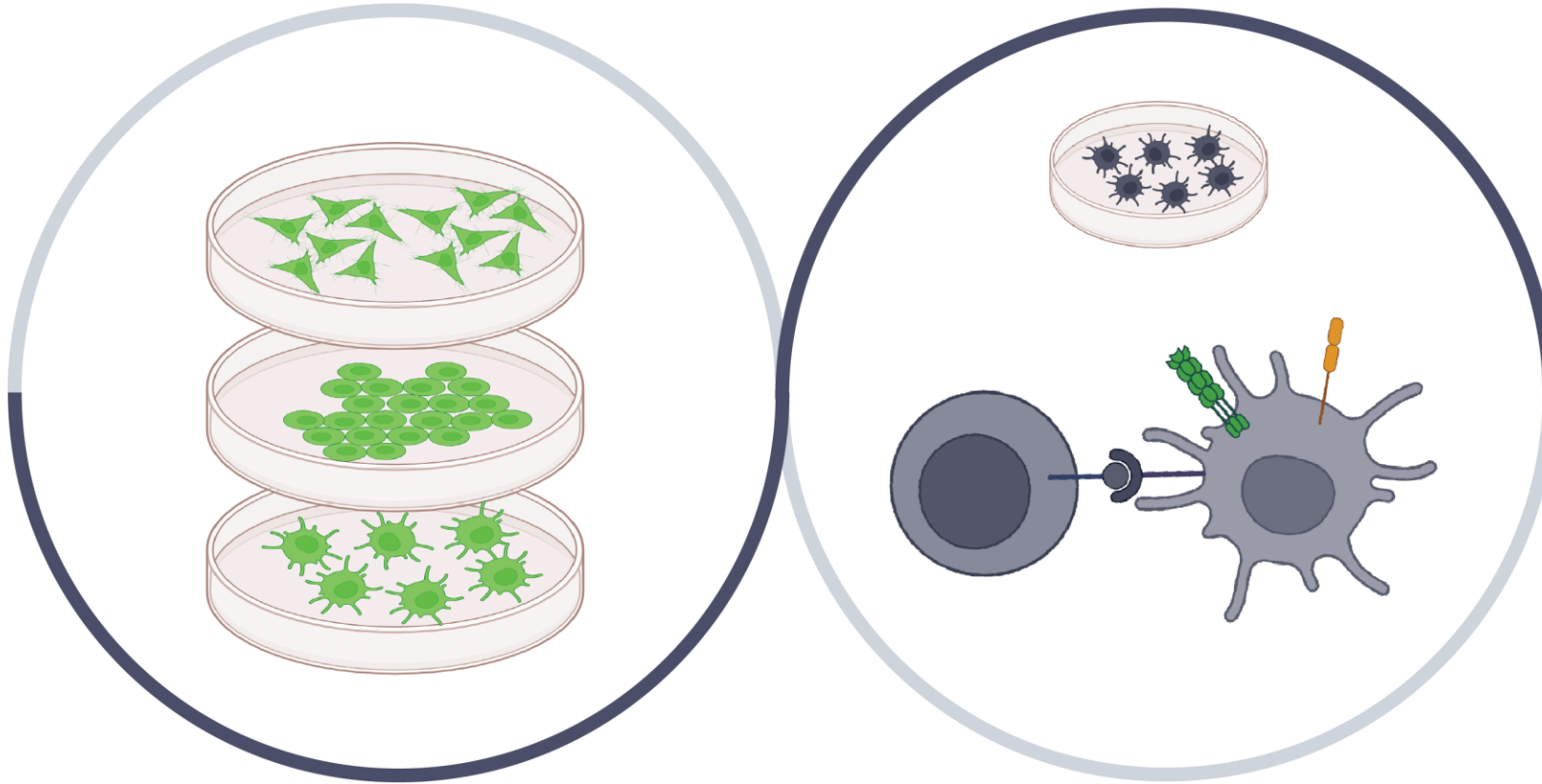
Efficient transfection

Biological performance of LAPIS



Efficient transfection in various cell lines

Biological performance of LAPIS



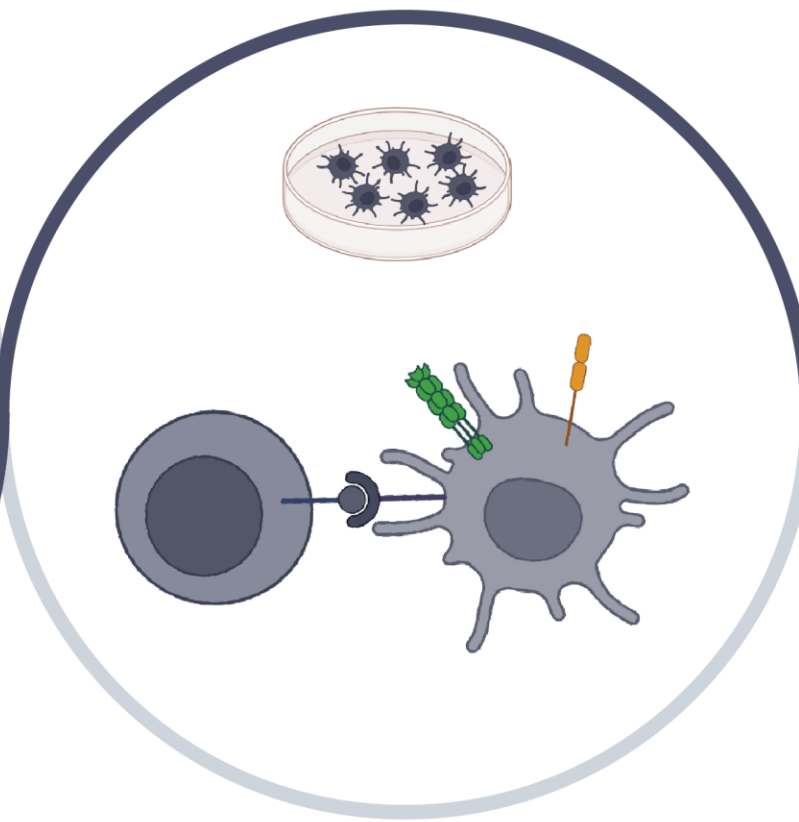
Efficient transfection in various cell lines

In vitro immunogenicity

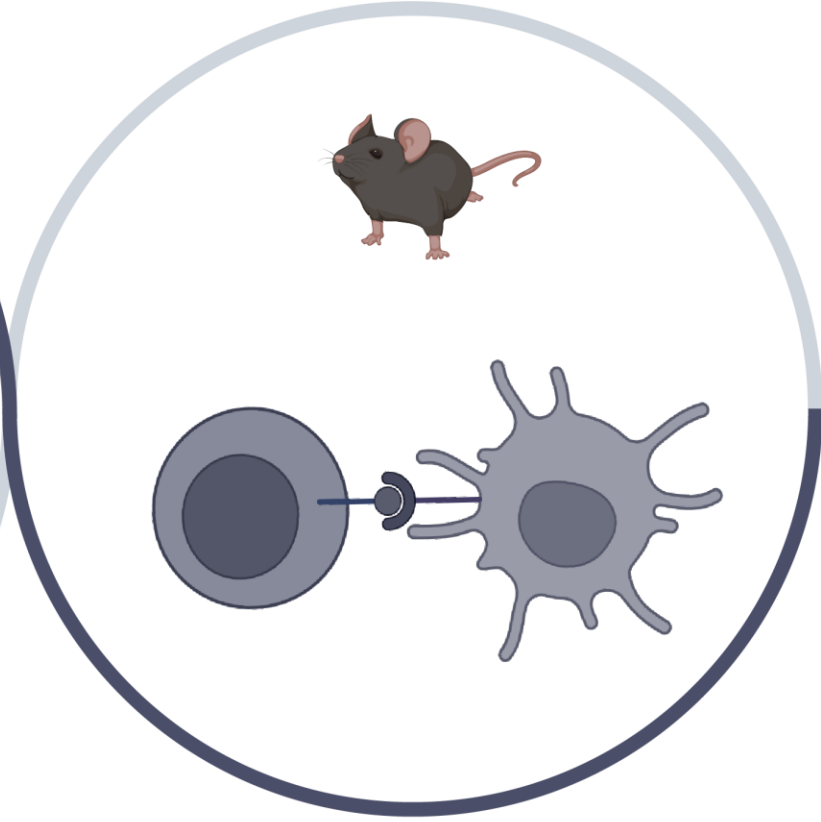
Biological performance of LAPIS



Efficient transfection in various cell lines

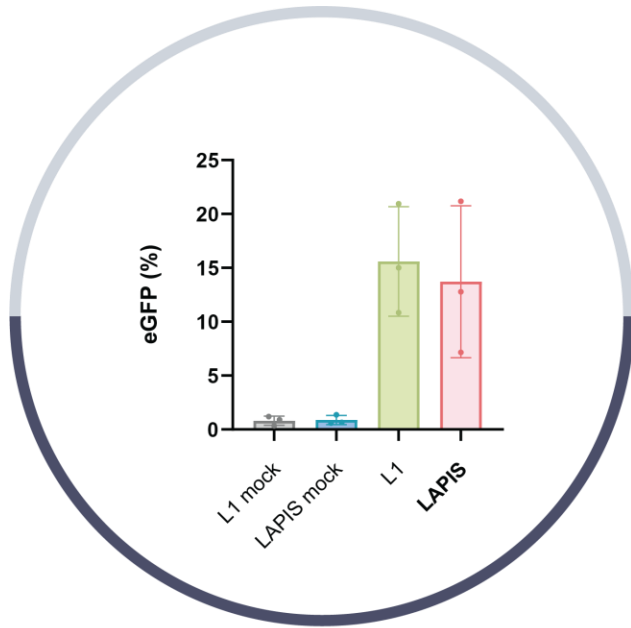


In vitro immunogenicity



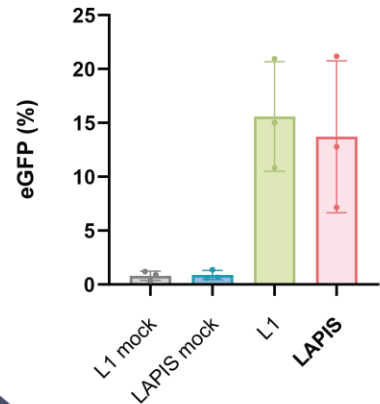
In vivo immunogenicity

Adjuvant potential and flexibility of LAPIS

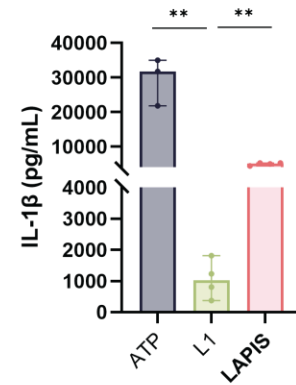


**Efficient transfection in
monocyte-derived DCs**

Adjuvant potential and flexibility of LAPIS

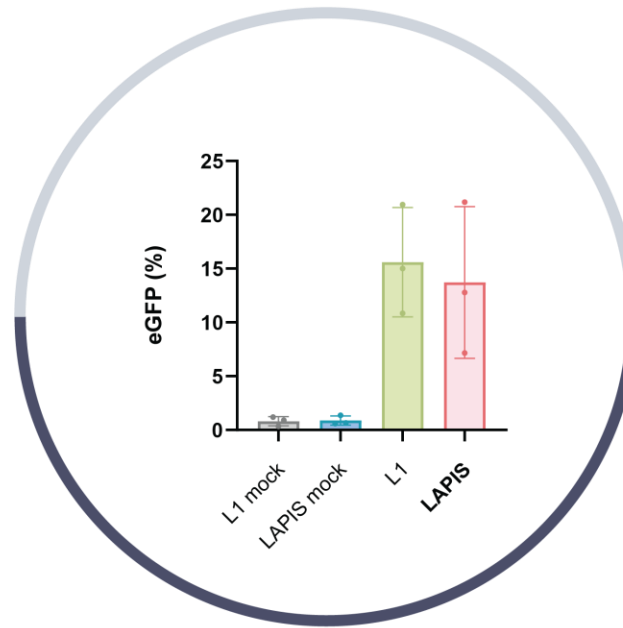


Efficient transfection in monocyte-derived DCs

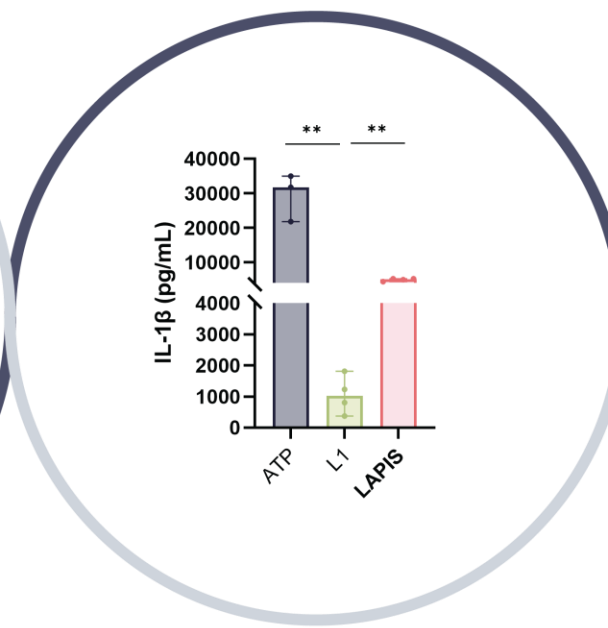


Endogenous adjuvanticity

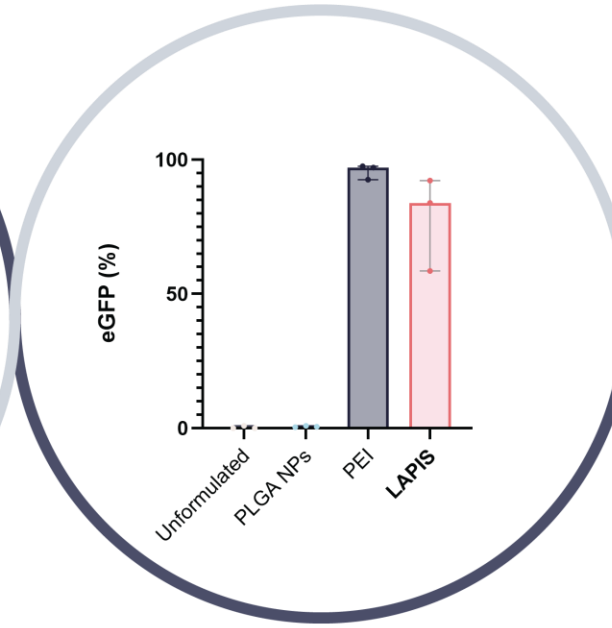
Adjuvant potential and flexibility of LAPIS



Efficient transfection in monocyte-derived DCs

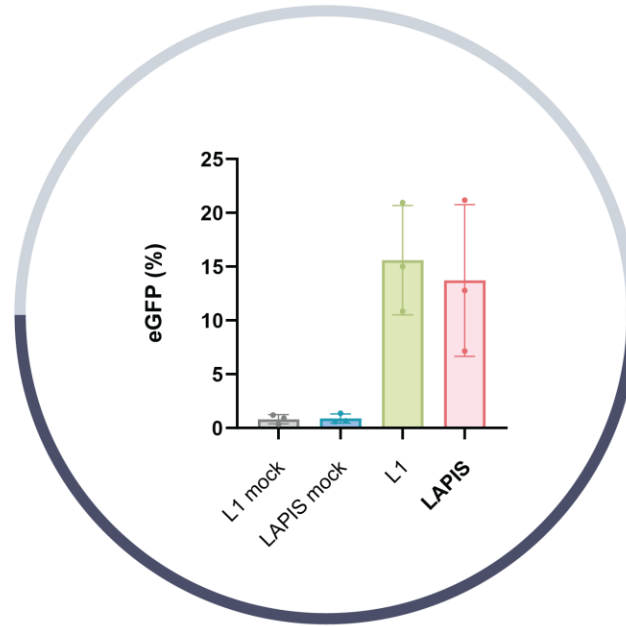


Endogenous adjuvanticity

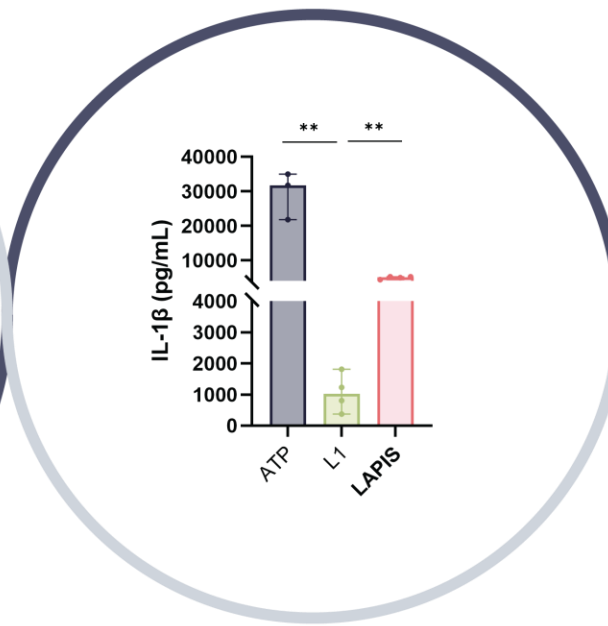


Efficient pDNA delivery

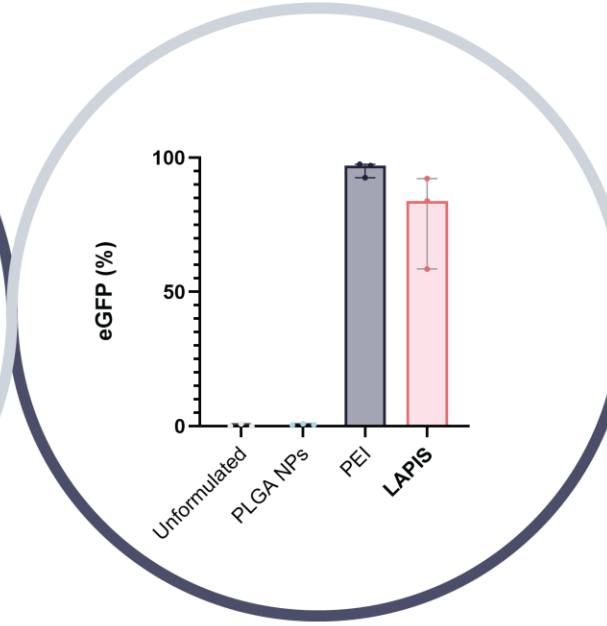
Adjuvant potential and flexibility of LAPIS



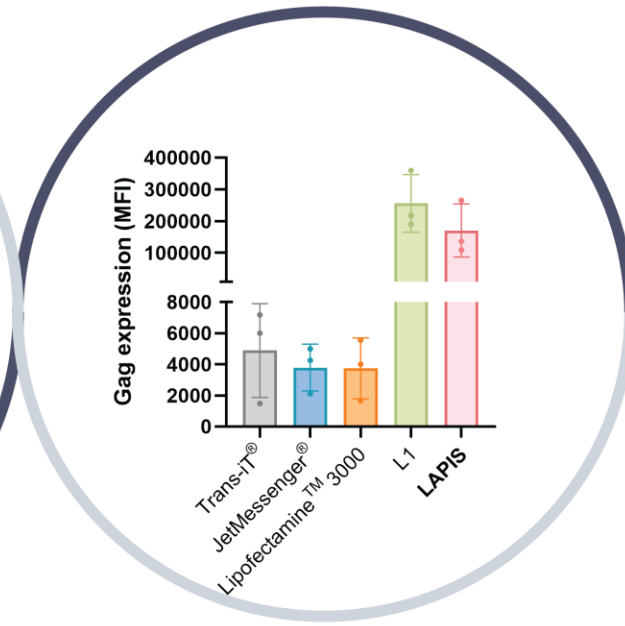
Efficient transfection in monocyte-derived DCs



Endogenous adjuvanticity



Efficient pDNA delivery



Compatible with saRNA

Today's status and future goals





Crafting precision in therapeutic delivery, one layer at a time

Thank you



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NAVI website



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