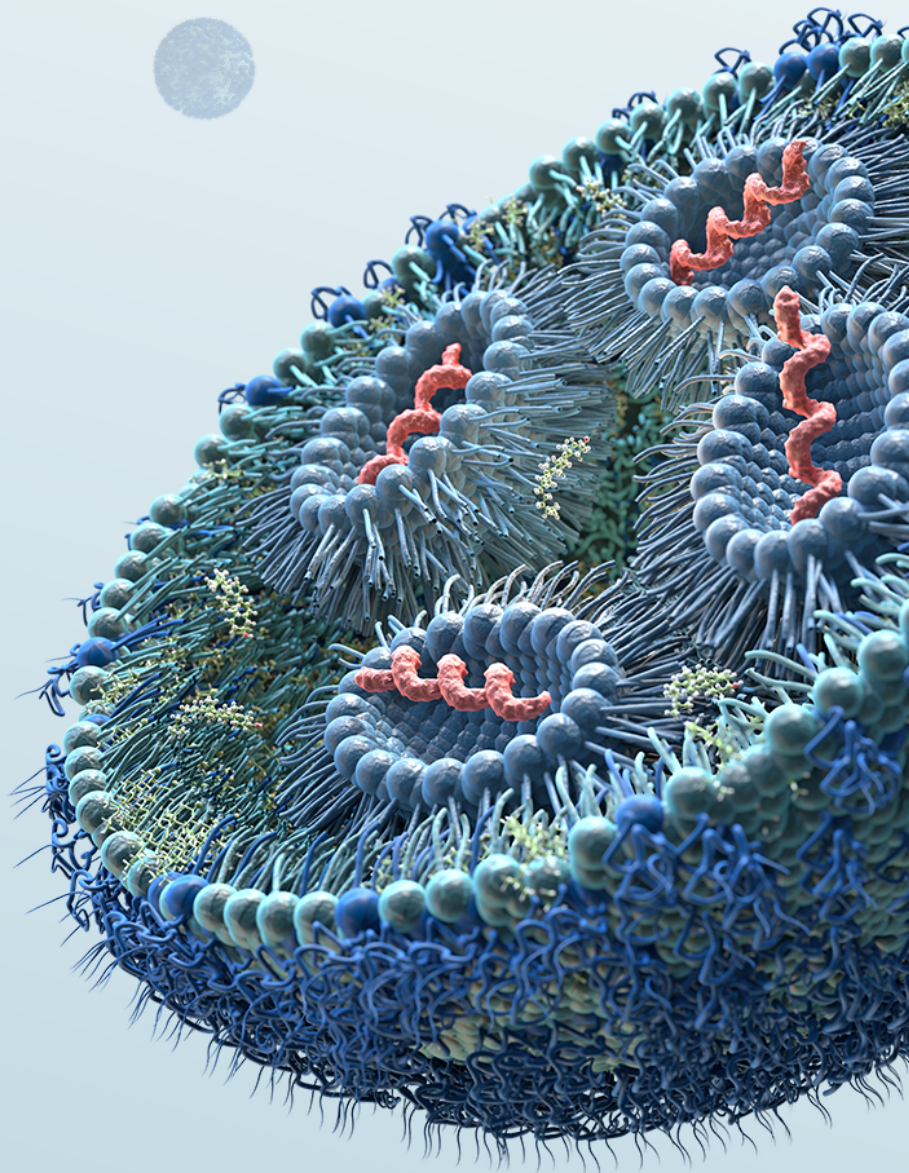
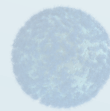
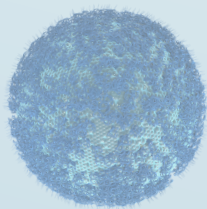


DELIVERY

TARGETING

RNA



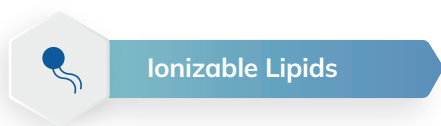
*Delivering
the message*

Certest Biotec S.L., founded in Zaragoza in 2002, is a technology-driven company specializing in innovative R&D with a strong customer-focused approach.

Its last business unit, **Certest Pharma**, is dedicated to developing a unique **platform** for Nucleic Acid Drug Delivery, with a special focus on seeking improved formulations to enhance **delivery** with Proprietary Ionizable Lipids and optimized methods for **Targeting** any organ with any cargo.



Our focus:
*Delivering
the message*



Certest Pharma has developed a new Proprietary and Patented library of Ionizable Lipids

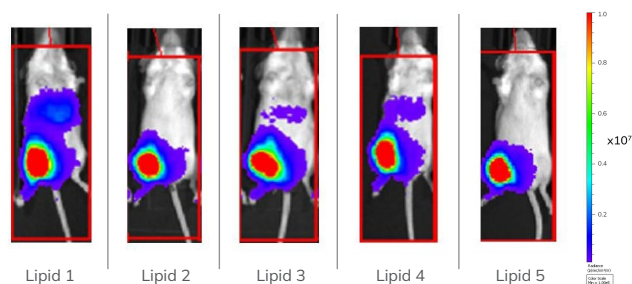
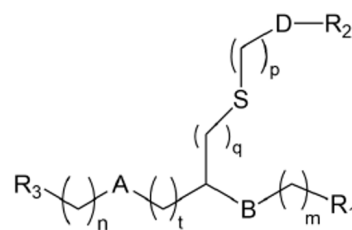


Fig. 1. Results of expression of Luciferase activity in mice inoculated intramuscularly with 1µg of mRNA for a selection of lipids developed by Certest Pharma.

GMP Available



WO2024/110381



Ionizable head

Branched tails

Biodegradable groups

Superior biodegradability

Expression of different payloads with Certest's lipids

mRNA

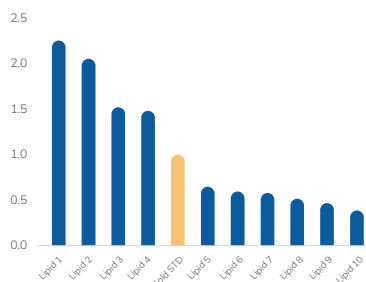


Fig 2. Relative LUC expression in BALB/c mice inoculated intramuscularly with 1 µg of Fluc mRNA-LNPs formulated with Certest Pharma lipids.

circRNA

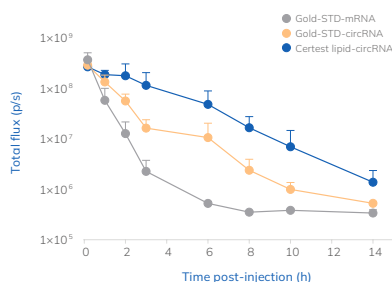


Fig 3. LUC expression in BALB/c mice inoculated intramuscularly with 1 µg of Fluc circRNA-LNPs formulated with Certest Pharma lipids.

CRISPR/Cas9

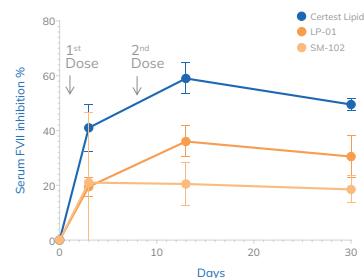


Fig 4. Serum FVII inhibition % in BALB/c mice inoculated intravenously with 20 µg/dose of Cas9 mRNA and sgRNA (1:1 w)-LNPs formulated with Certest Pharma lipids.



Outstanding performance also with siRNA and saRNA

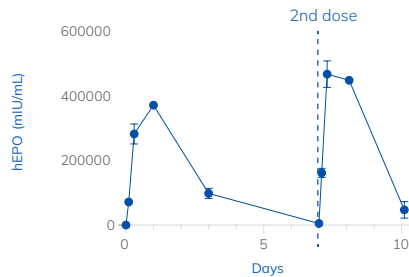


Tolerability and efficacy studies in Non-Human Primates



CP-LC-0729 to start clinical trials Q2 2026

Expression level



Tolerability: Clinical Chemistry

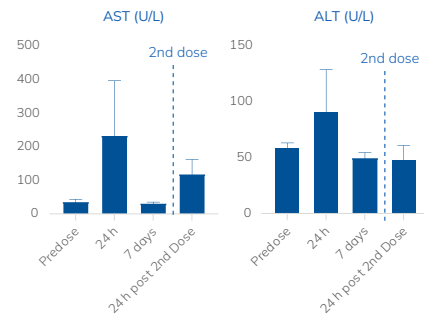


Fig 5 and 6. Efficacy response, measured by hEPO protein expression (left) and safety profile, assessed by ALT and AST level (right) in serum, in cynomolgus monkeys intravenously dosed with 0.5 mg/kg of hEPO mRNA formulated in LNPs (Certest ionizable lipid) on days 0 and 7.



Lyophilization

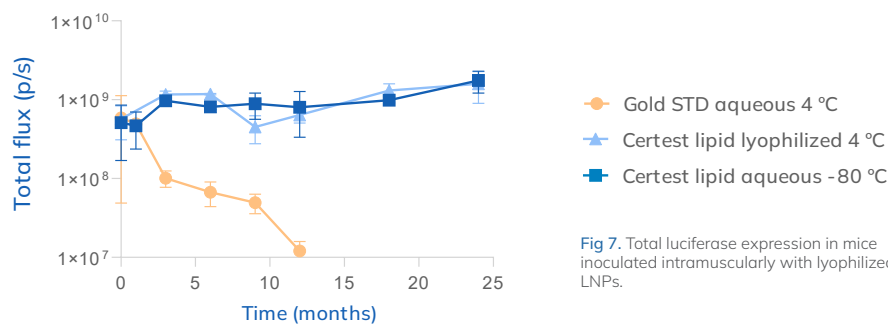


Fig 7. Total luciferase expression in mice inoculated intramuscularly with lyophilized LNPs.



Optimized lyophilization process

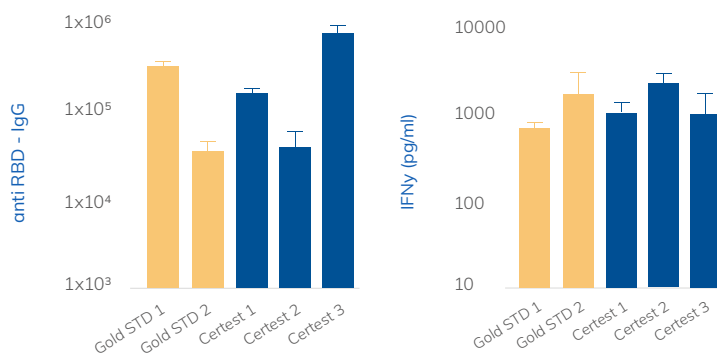
High stability at 4-25°C
(>2 year)



Therapeutic Application

High humoral and cellular immune responses in a disease model (SARS-CoV-2)

Immune response



In vivo anti-viral protection

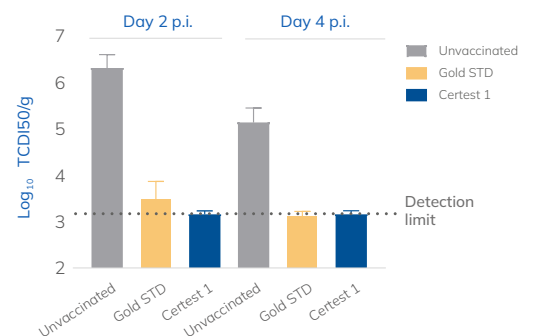


Fig 8. Humoral (Left) and cellular (Middle) responses measured, respectively, by quantifying anti-RBD IgG levels in serum or IFN- γ secretion by splenocytes in mice immunized following a 21 days prime-boost regime using a dose of 1 μ g of mRNA/mouse. Results correspond to samples taken 21 days post-boost. (Right) Viral load in lungs from vaccinated mice after infection with a SARS-CoV-2 mouse adapted strain.

Targeting

Passive Targeting | Spleen Delivery with 4 and 3 Component LNPs

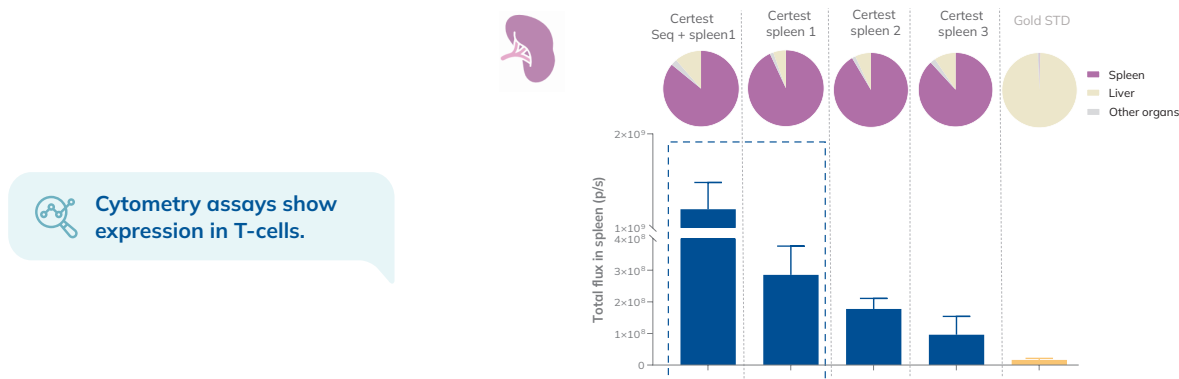
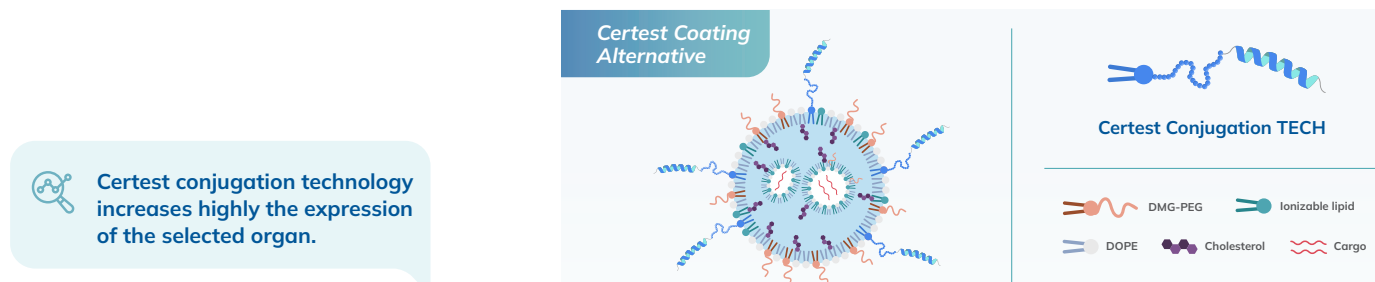


Fig 9. Luciferase ex vivo expression in BALB/c mice 4 hours post-intravenous inoculation with 10µg of Fluc mRNA/mouse formulated in LNPs using different Certest Pharma ionizable lipids.

Active Targeting | Organ specific Delivery with Ligand-conjugation



Validating Certest Enhanced Conjugation Technology

» Systemic Tumor Delivery

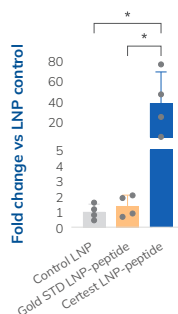
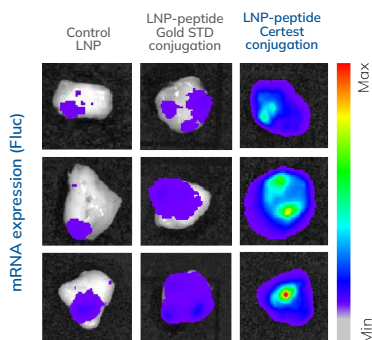


Fig 10. *In vivo* tumor biodistribution of Certest-targeted LNPs. Luciferase mRNA expression. Images were acquired 4 h post intravenous administration (1 mg/kg mRNA-LNP) in athymic mice bearing subcutaneous MDA-MB-468 tumors.

» Crossing the Blood-Brain Barrier

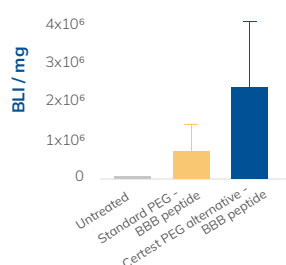
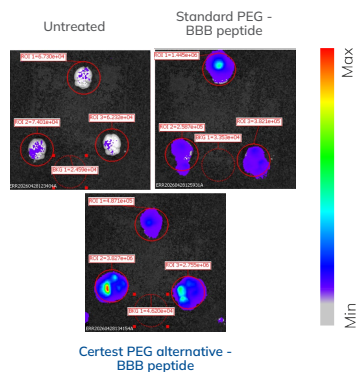


Fig 11. *In vivo* brain biodistribution of Certest-targeted LNPs. Luciferase mRNA expression. Images were acquired 4 h post intravenous administration (1 mg/kg mRNA-LNP) in BALB/c mice.

» Tumor to Liver Ratio

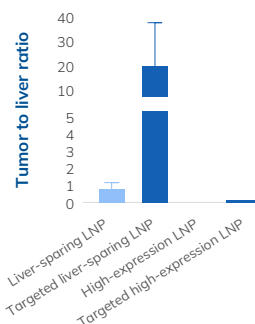
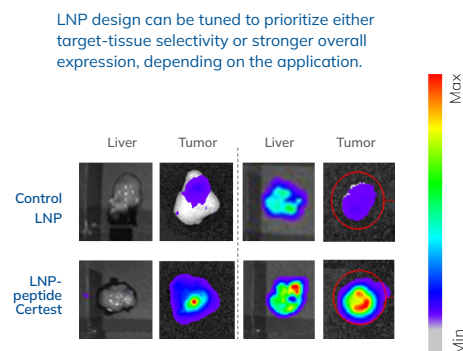


Fig 12. *In vivo* biodistribution of Certest non-targeted and targeted LNPs using CP-LC-1476 and CP-LC-0729 ionizable lipids, spleen and liver tropism, respectively. Images were acquired 4 h post intravenous administration (1 mg/kg mRNA-LNP) in athymic mice bearing subcutaneous MDA-MB-468 tumors.

*The complete solution
from our experience
on delivery*



certest
PHARMA

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