

## Special Issue

# Gene Therapy with LNPs, Possibilities, Limitations, New Strategies

### Message from the Guest Editors

In recent years, the utilization of lipidic nanoparticles for gene therapy has been widely investigated after the success of the COVID-19 vaccine. Notwithstanding the incredible opportunities offered by the application of lipid nanoparticles in gene therapy, several issues need to be addressed. In fact, the use of mRNA or siRNA might seem advantageous due to their cytoplasmic target, but these molecules are highly unstable. DNA, on the other hand, exhibits greater stability against formulation stresses; however, it requires nuclear delivery, which poses extensive difficulties. In this Special Issue, we plan to collect research articles and reviews that demonstrate how researchers are addressing the current limitations of gene therapy with LNPs. The scope of this Special Issue includes, but is not limited to, the following:

- Novel LNP formulative strategies;
- Innovations or new insights regarding the lipidic composition of LNPs;
- Analysis of the intracellular trafficking of LNPs;
- Delivery of mRNA, siRNA, pDNA, as well as other genome editing tools such as Cas9;
- Innovative strategies for genome editing;
- Advanced characterization methods for LNP morphology.

### Guest Editors

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### Deadline for manuscript submissions

closed (30 April 2025)



## Pharmaceutics

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