



Scientific Symposium

News from the LNP front: new approaches focusing to mRNA/LNP characterizations

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Abstract

mRNA-based drugs hold tremendous potential as clinical treatments. However, a major challenge in realizing the promise of this class of drugs is developing methods (including production and analytical tools) for delivering the bioactive agents safely and with high efficiency. Delivering naked modified mRNAs is inefficient, leading to low levels of antigen protein production. Consequently, lipid nanoparticles have been utilized to enhance delivery and protect the mRNA cargo from extracellular degradation. Analytical tools for characterizing at the particle level, as well as techniques for assessing the molecular components, play a crucial role in the production process and in quality control. The techniques currently available for sufficiently characterizing intact nanoparticles containing RNA are very limited. These include cryo-EM which has very high costs and is only available at larger institutions, such as universities, ELS which does not provide reliable values and is not very meaningful, and AF4 which is not yet established for these applications but has the potential to be helpful. Recognizing this gap, Solvias has made efforts to introduce new methods, including the use of techniques such as capillary zone electrophoresis (CZE) or Taylor dispersion analysis, to characterize intact LNP systems.



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Free



For inquiries or assistance with registration, please contact us at marketing@solvias.com.