Metrology for Nanomedicine: From Project overview to Harmonising LNPs Size Characterisation with Multi Detector Field-Flow Fractionation in an Interlaboratory Study.

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For registration, please complete the form available at this link

TOPIC / ABSTRACT

MetrINo ("Metrology for Innovative Nanotherapeutics", metrino.eu) is a European partnership on metrology project that addresses the pressing need for reliable quality control of nanotherapeutics. To this end, the project develops and validates traceable measurement methods and candidate reference materials (RMs) for the **assessment of critical quality attributes (CQAs) of nanotherapeutics**. MetrINo is focusing on clinically relevant formulations including synthetic **lipid-based nanotherapeutics**, lipid nanoparticles (LNPs) for RNA delivery and liposomes, and **metal oxide nanoparticles** (MONPs) used for localised cancer treatment or as contrast agents. The project aims to provide fit-for-purpose methodologies and harmonised protocols to support regulators, industry, and research stakeholders.

As part of this effort, fractionation methods for nanoparticles are being advanced, including their application to complex biological matrices. An **interlaboratory comparison** (ILC) study has been conducted with the participation of metrology institutes, research organisations, instrument manufacturers, and contract research organisations to evaluate the sizing of LNPs by field-flow fractionation (FFF) coupled to multi angle light scattering (MALS). The study includes instruments from different manufacturers with varying inlet configurations, and the selected measurands are critically assessed. The ILC results contribute to the promotion of method standardisation across laboratories and provide input to ongoing activities in standards-developing organisations.

In the webinar we will give you an **overview on the projects efforts** and outline the **aim, conception and preliminary results of ILC study** and how European partnership on metrology are supporting standardisation in practice.

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