

TAMARA

PLUG AND PLAY
NANOPARTICLE SYNTHESIS



WHAT IS TAMARA ?

The TAMARA nanoparticle formulation system is a microfluidic-based platform designed for researchers who seek ease of use, control, and repeatability in the synthesis of nanoparticles.

It is the perfect companion for any nanoparticle specialist - from beginners to experts - looking for a comprehensive, user friendly, and efficient nanoparticle system for the development of novel drugs.

KEY FEATURES



From 200µL to 10mL of nanoparticle*



Encapsulation efficiency >95% & PDI <0.2 for RNA-LNP



Less than 2 minutes per run



Ultimate size control (50-200nm) and repeatability (+/-3%)



Reusable chips and reservoirs



No dead volume: 100% reagent use

*Accuracy & repeatability are ensured in the 0.5 to 5 mL range.

BENEFITS

SPEED UP YOUR LAB ROUTINE

ONE SYSTEM FROM SCREENING TO PRECLINICAL

ONE CHIP FOR ALL YOUR BATCHES



ONE PLATFORM FOR ALL NANOPARTICLE

BEST SIZE, PDI, EE% & REPEATABILITY

MINIMIZED REAGENT USE

THEY TRUST US

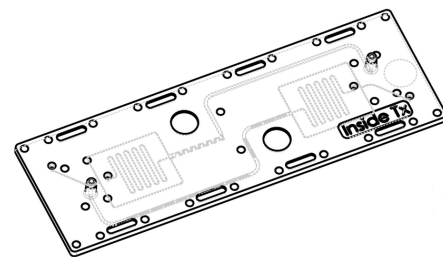


TECHNOLOGY

TAMARA uses the state-of-the-art microfluidic technology for the synthesis of nanoparticles by nanoprecipitation.

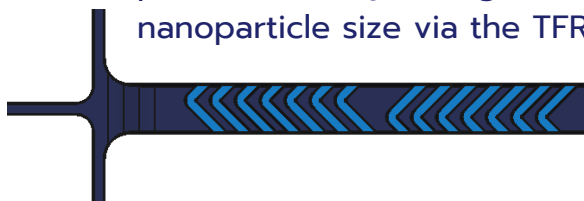
Using our technology, reach PDI < 0.2, encapsulation efficiency > 95%, size control and repeatability of +/- 3%.

Our proprietary microfluidic chips are embedding 2 designs for more flexibility: one herringbone mixer and one baffled mixer.



Herringbone mixer

Most commonly used micromixers, it permits an easy tuning of the nanoparticle size via the TFR.



Baffled mixer

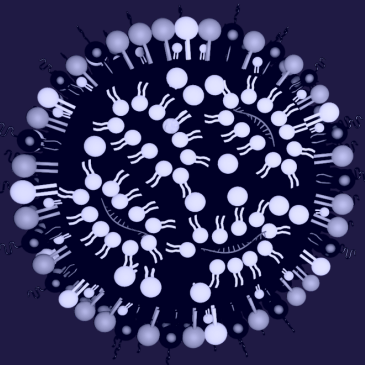
Novel generation microfluidic mixer, designed for ultra fast mixing to achieve smallest nanoparticle sizes.



FLEXIBLE NANOPARTICLES

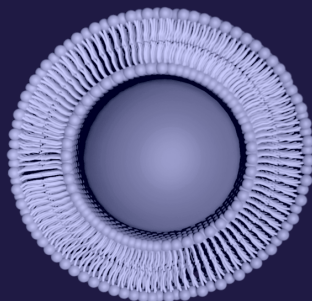
LNP

Specially engineered for delivery any types of RNA (mRNA, siRNA, miRNA, ASO...)



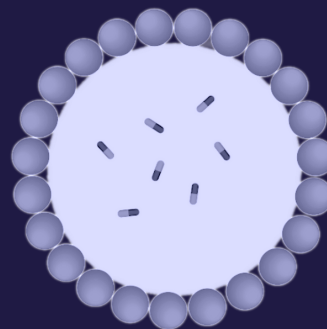
LIPOSOMES

First organic nanoparticle ever discovered, its still widely used for drug delivery



PLGA

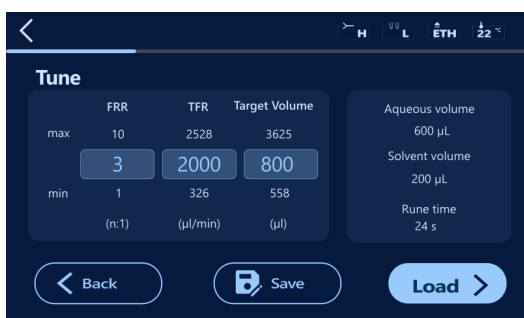
PLGA nanoparticle are a versatile polymer-based carrier for small molecules



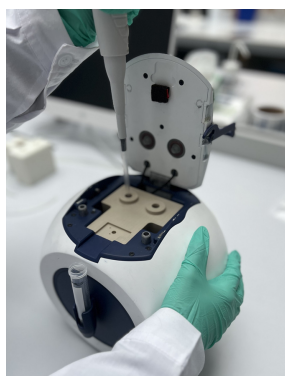
& ANY OTHER POLYMERIC OR LIPID-BASED NANOPARTICLES

INTUITIVE OPERATION

1. Set your synthesis parameters



2. Pipette your liquids



3. Close, run & collect

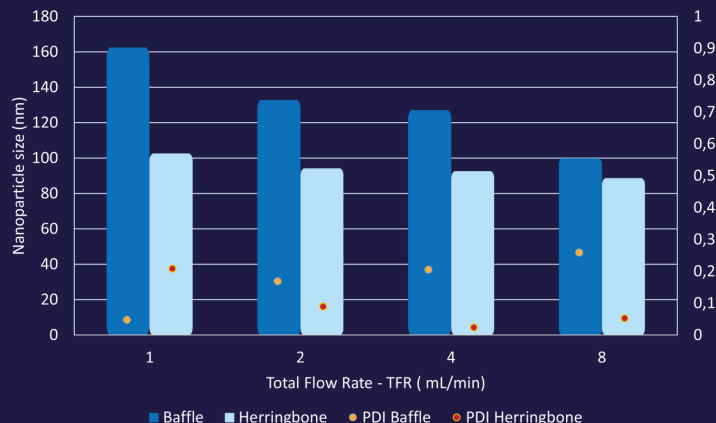


ULTIMATE SIZE & PDI CONTROL

Quickly and easily fine-tune your nanoparticle size for optimal intracellular delivery efficiency! To do so, simply adjust synthesis parameters through our user-friendly interface, including Total Flow Rate (TFR) and Flow Rate Ratio (FRR)

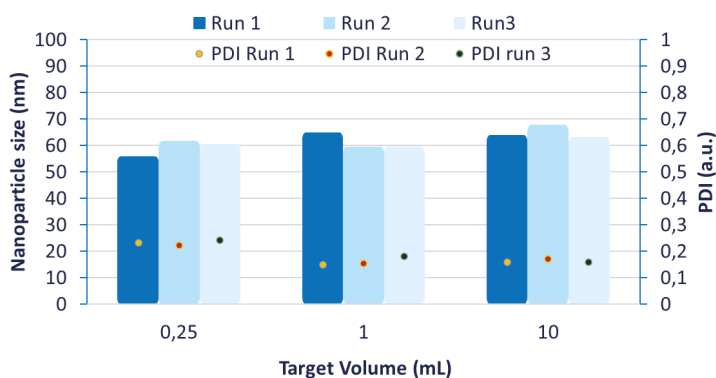
Leveraging the most advanced microfluidic technology, the TAMARA platform offers exceptionally homogenous nanoparticle population (PDI <0.2), making it the perfect tool for all your biological studies.

Flow rate influence on nanoparticle size and PDI using both an Herringbone and a baffle design (TAMARA platform)



REPEATABILITY & SCALABILITY

Batch to batch reproducibility at different volumes with Herringbone Mixer



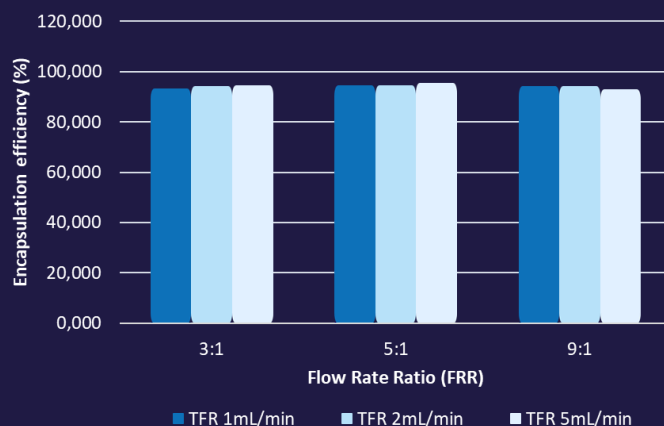
Benefit from the TAMARA platform's advanced fluidic design, maintaining consistency from batch to batch.

This design ensures synthesis across various scales (0.2 to 10 mL), enabling seamless utilization of the same system from initial screening steps to preclinical studies.

ENCAPSULATION EFFICIENCY

Employing the state of the art microfluidic technology, the TAMARA platform permits to reach encapsulation efficiency as high as 97% with RNA-LNP, surpassing all other nanoparticle synthesis technologies.

TFR & FRR influence on siRNA-LNP encapsulation efficiency



Reach out to learn more!

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