

3D microfluidic system for the high Throughput Precipitation of Lipid Nanoparticles

Description

Lipid nanoparticles (LNPs) have emerged as an important technology for the delivery of nucleic acids, particularly mRNA, due to their ability to encapsulate and protect these sensitive molecules. Recent advances in microfluidic systems have significantly improved the efficiency and throughput of LNP production, enabling rapid screening and optimization of different lipid formulations. Microfluidic devices play a pivotal role in the formulation of LNPs by allowing precise control over mixing conditions, which is essential for achieving optimal particle size and encapsulation efficiency. The staggered herringbone design in microfluidic mixers enhances mixing efficiency and enables the formation of LNPs with desired

This thesis deals with the fabrication of 3D microfluidic channels of different shapes and sizes to generate small and monodisperse lipid nanoparticles.

Fields of activity:

- Solidwork software
- Clean room work
- Microfabrication

Start: By arrangement
Contact: Ebrahim Taiedinejad
Phone.: 0531 391-65675
e.taiedinejad@tu-braunschweig.de



Institute of Microtechnology | Alte Salzdahlumer Str. 203 | 38124 Braunschweig

