



OFF-THE-SHELF mRNA NANOMEDICINES

Expanding Platforms for Efficacious mRNA Therapeutics

The EXPERT project aims at developing a new off-the-shelf delivery system for RNA-based nanomedicines to treat cancer and cardiovascular disease. In order to protect the mRNA, increase the target cellular uptake and reduce mRNA adverse immune-response, multiple mRNA encapsulating nanoparticle platforms will be tested. This will include the established lipid nanoparticles (LNPs) as well as emerging carriers such as cell penetrating peptides (CPP) and extracellular vesicles (EVs). The complementary expertise of the partners spans the entire development track from nanoparticle quality-by-design, large-scale Good Manufacturing Practice (GMP)-based production to safety as well as quality and efficacy assessment in line with regulatory compliance to clinical expertise.

As proof-of-concept, the partners aim at a first clinical study focusing on immunotherapy for metastatic triple-negative breast cancer by using mRNA encapsulated into LNPs. In the long term, the platform technology could be used for improving therapeutic options for patients with several other diseases.

Approach



Key Facts



Contact

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The EXPERT project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 825828.