

Towards Highly Specific Theranostics via Engineered Nanoparticles Mimicking Extracellular Vesicles: Focus on Envelope Dynamics

European project MIMIC-KeY (www.mimickey.eu) aims at creating synthetic extracellular vesicles (EVs) and demonstrating their use with the specific delivery of therapeutic cargo for treating lysosomal bone metabolic disease. Here we present a brief report on computational analyses that assisted the design of artificial nanoparticles consisting of a breakable organosilica core (allowing high payload encapsulation efficiency and controlled release) surrounded by a single-stack lipid bilayer envelope, notably allowing to host proteins.

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