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mRNA and drug delivery with lipid-based nanoparticles

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Curriculum vitae

Ye Zeng was born October 29, 1990, in Yuanjiang, Yiyang city, Hunan province, P. R. China. In 2009, she graduated from Yuanjiang No.1 High School and commenced her Bachelor studies in Pharmacy at Hunan University of Chinese Medicine, Changsha, China, and obtained her bachelor degree in 2013. In 2013, she continued her study in Pharmaceuticals as a master student at Sichuan University under the supervision of Prof. Xun Sun. Her master thesis was entitled: “PEGylated Cationic Vectors Containing a Protease-Sensitive Peptide as a miRNA Delivery System for Treating Breast Cancer” and this work was published in *Molecular Pharmaceutics*. During her master’s education, she was awarded the “First Class Academic Scholarship” of Sichuan University. After obtaining her MSc degree in 2016, she worked as a researcher at the Gene Therapy Department of Salubris Biotherapeutics (Chengdu). In 2017, she decided to pursue a PhD degree, and was awarded a scholarship from Chinese Scholarship Council (CSC) to start her doctoral research in the group of Supramolecular & Biomaterials Chemistry under the supervision of Prof. dr. Alexander Kros and Dr. Aimee Boyle. Her PhD study focused on the development of coiled-coil-based biomaterials to enhance the delivery efficiency of mRNA and drugs, and evaluated different lipid nanoparticles for T cell immune responses. Currently, she is working as a postdoc at the Leiden Institute of Chemistry on RNA therapeutics delivery funded by a NWO-XS grant.

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List of publications

1. **Zeng, Y.**; Shen, M. J.; Pattipeiluhu, R.; Bakkum, T.; Sharp, T.H.; Boyle, A. L.; Kros, A. Efficient mRNA Delivery Using Fusogenic Coiled-coil Peptides. **Submitted.**
2. **Zeng, Y.**; Escalona-Rayó, O.; Knol, R.; Kros, A.; Slütter, B. Lipid Nanoparticle-based mRNA Candidates Elicit Potent T cell Immune Responses. **Submitted.**
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5. Zhou, X. Q.; Mytiliniou, M.; Hilgendorf, J.; **Zeng, Y.**; Papadopoulou, P.; Shao, Y.; Dominguez, M. P.; Zhang, L.; Hesselberth, M. B. S.; Bos, E.; Siegler, M. A.; Buda, F.; Brouwer, A. M.; Kros, A.; Koning, R. I.; Heinrich, D.; Bonnet, S. Intracellular Dynamic Assembly of Deep-Red Emitting Supramolecular Nanostructures Based on the Pt...Pt Metallophilic Interaction. *Advanced Materials* **2021**, 33, 2008613.
6. Pattipeiluhu, R.; **Zeng, Y.**; Hendrix, M.R.M.; Voets, I.K.; Kros, A.; Sharp, T.H. Paracrystalline Inverted Lipid Phases Encapsulating siRNA Enhance Lipid Nanoparticle Mediated Transfection. **Submitted.**
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9. Zhao, G.*; **Zeng, Y.***; Papadopoulou, P.; Snaar-Jagalska, E.; Kros, A. Therapeutic Gene Silencing Using CD44 Targeted Peptide Modified LNP-siRNA in Breast Cancer. **Manuscript in preparation.**
10. Bobylev, E. O.*; **Zeng, Y.***; Weijgertse, K.; Koelman, E.; Aarts, M.; Meijer, E. M.; Alarcón-Lladó, E.; Bruin, B.; Kros, A.; Reek, J. N.H. The Application of M12L24 nanocages as Cell-specific siRNA Delivery Agents. **Manuscript in preparation.**
11. Zeng, Y.*; **Zhao, G.***; Snaar-Jagalska, E.; Kros, A. Efficient Gene Editing of Tumor-targeted LNP-CRISPR/Cas9 Delivery. **Manuscript in preparation.**

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