Yi Li

China Pharmaceutical University, #639 Longmian Avenue, Nanjing, P. R. China · 211198
yili.cpu@gmail.com • (+86) 150-5059-0898

Education

China Pharmaceutical University Nanjing, P. R. China
B.S. in Pharmaceutical Science (Top-notch Innovation Program) 09/2016-07/2020
GPA: 3.6/4.0
Honors:

- Outstanding Student Scholarship, Top-notch Innovation Program (2018 and 2019)
- Overseas Outstanding Student Scholarship (2018)
- Third Prize Scholarship (top 10%) (2017)

University of Strathclyde Glasgow, United Kingdom
Summer Exchange Program 07/2018-08/2018

Research

Key Laboratory for Druggability of Biopharmaceuticals, China Pharmaceutical University, Nanjing, P. R. China
Advisor: Dr. Lifang Yin and Dr. Wei He

- **Project Leader:** Study on a Smart Paclitaxel-Dichloroacetic Acid Nanococrystals for Efficient MDR Reversal and Enhanced Apoptosis. 01/2019-present

1) Constructed a multifunctional drug-delivery-drug self-assembled nanoplatform to reverse MDR effects and enhance apoptosis via a non-lysosomal pathway.
2) Explored methods of preparing a two-drug platform and optimized the prescription via simulation.
3) Characterized particles *in vitro* and improved experimental conditions based on their effects on the nanocrystals' behavior and properties.
4) Studied cytotoxicity and apoptosis in normal and drug-resistant A549 strains.
5) Studied intracellular distribution and non-lysosomal inoculation pathways.

- **Research Associate**: Using Marimastat-loaded Thermosensitive Liposomes (MATT-LTSLs) and Paclitaxel Nanocrystals (PTX-Ns) as Dual-nanomedicines to Treat Metastatic Cancer. 11/2018-03/2019

1) Designed MATT-LTSLs to lock cancer cells into their microenvironment via hyperthermia as well as PTX-Ns to enhance apoptosis via local treatment.
2) Analyzed the thermosensitivity of LTSLs by measuring fluorescence anisotropy in relation to membrane fluidity.
3) Studied cellular uptake of PTX using flow cytometry; examined the antimetastatic ability of MATT-LTSLSs through transwell assays; and assessed the targeting ability and penetration by CLSM.
4) Examined apoptosis and proliferation of cancer cells via TUNEL and Ki67 assays.
5) Evaluated biodistribution and antitumor efficacy *in vivo* in a 4T1 tumor-bearing mousee model.

- **Research Associate:** Study on a Drug-delivering-drug Platform-mediated Potent Protein Therapeutics via a Non-lysosomal Route. 03/2018-06/2018

1) Studied the apoptosis mechanisms of caspase3 and performed quantitative analyses via western blot.
2) Compared endocytosis and intracellular distribution of the lysosomal and non-lysosomal routes of CLSM.
3) Studied the influence of nanoparticle properties on their endocytosis and performed pharmacodynamics assays in cells.

- **Project Leader**: Baicalein-mediated Delivery of p53 in Therapeutics of Pulmonary Hypertension (Student Entrepreneurship Competition Program). 10/2017-04/2018

1) Constructed a gene-drug co-delivery platform for a novel chemotherapy for PAH and confirmed its efficacy in animals.
2) Designed synthetic routes to assemble the BCL-p53-βlg complex, in order to reduce pulmonary vascular resistance and apoptosis.
3) Performed electrophoresis for a quantitative component analysis of p53, tsp1, and Bax; performed RIP assays to study the regulation mechanism of p53 in relation to these two proteins.
4) Established a pulmonary embolism in a rat model and studied the efficacy of anti-PAH.

- **Research Assistant**: Assembling Nanoplatforms from a CD44-targeted Drug and Liposomes for Dual-targeting of TME and Cancer Cells. 05/2017-01/2018

1) Designed self-assembled smart thermosensitive liposomes to function as a dual-targeting platform for co-delivery of MATT and HA-PTX, with the goal of inhibiting metastasis and angiogenesis.
2) Designed the synthetic route of a HA-PTX prodrug and compared its effects with those of normal liposomes and free drugs.
3) Performed pharmacokinetic experiments in a mouse 4T1 tumor model.

State Key Laboratory of Natural and Biomimetic Drugs, Peking University Beijing, P. R. China

Advisor: Dr. Wangliang Lu

- **Research Assistant**: Constructing Nanosized Functional miRNA Liposomes to treat TNBC by Silencing the Slug Gene. 06/2019-08/2019

1) Constructed miRNA liposomes using CRISPR/Cas9 to silence the slug gene, in order to inhibit the TGF-β1/Smad pathway, thereby inhibiting the invasiveness and growth of TNBC cells.
2) Utilized TargetScan, miRanda/mirSVR, and PicTar to investigate the region of miRNA used to target slug and confirmed that miRNA-203 was the regulator of slug.
3) Used solid phase synthesis to prepare miRNA-203 and a negative control miRNA.
4) Designed primers, performed PCR and gene sequencing, and analyzed cellular localization of liposomes via qPCR.

Publications

Lyu, Y., Xiao, Q., **Li, Y.**, Wu, Y., He, W., & Yin, L. (2019). "Locked" cancer cells are more sensitive to chemotherapy. *Bioengineering & Translational Medicine*, 4(2), e10130. doi:10.1002/btm2.10130

Affiliations

Student Representative: The 4th Chinese American Society of Nanomedicine and Nanobiotechnology 08/2019
Student Representative: The 12th China Pharmaceutical Conference 11/2018
Student Representative: Generic Drug Consistency Evaluation Training 08/2018

Volunteer

Physician's Assistant: National Hospice Service Program, Fujian, China 09/2016-Present
Teaching Assistant: Science College of CPU 09/2016-09/2018
Pharmacist's Assistant: Outpatient Pharmacy of Nanjing First Hospital 10/2016-06/2017
Pharmacist's Assistant: Department of Pharmacy of Fujian Provincial Hospital 12/2017-02/2018

Skills

Instruments: CLSM, TEM/SEM, PXRD, FCM, CD, MS, NMR, WB, cryo-EM, DLS particle analyzer, Biacore.
Cell Experiments: MTT assay, transwell assay, ChIP/RIP assays, TUNEL assay, intracellular distribution of drugs.
Animal Experiments: Constructing tumor models, drug administration, inducing hyperthermia, bio-sample analyzing.
Gene Engineering: CRISPR, PCR, RT-qPCR, primer design, DNA sequencing.
Software: Origin, SPSS, MATLAB, Chemdraw, Primerbank, ProtParam, Design Expert, Endnote, Mathematica.