

Lin Niu, Ph.D.

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Practice Areas: Patent prosecution in chemical, pharmaceutical science and biotechnology

Education

Mitchell Hamline School of Law, J.D. candidate (expected graduation 2024)

University of Minnesota, Law School, **M.S., Patent Law**, 2015

University of Minnesota, College of Pharmacy, Department of Pharmaceutics, **Ph.D., Pharmaceutics** 2015

Huazhong University of Science and Technology (HUST), Tongji Medical College, **Master of Medicine, Immunology** 2009

Huazhong University of Science and Technology (HUST), Tongji School of Pharmacy, **B.S., Pharmaceutical Sciences** 2007

Bar Admissions

United States Patent and Trademark Office, December 2015

Professional Experiences

1. Viksnins Harris Padys Malen LLP

Patent Agent, June 2019 to present

Prepare and prosecute US and international patent applications for chemical, pharmaceutical and life sciences inventions.

2. Mayo Clinic Ventures, Department of Business Development;

Mayo Clinic Laboratories, Department of Laboratory Medicine and Pathology

Patent Liaison, 2015 to 2019

Patentability evaluation of invention disclosures (small molecule drug, biologics, nanomedicine, immunotherapy, vaccine, genome-editing, diagnostics and medical device), patent portfolio management, closely work with inventors, licensing, business development team members and outside counsels on IP strategy, patent drafting, prosecution and freedom to operate analysis.

3. University of Minnesota, Office of Technology Commercialization

Intern, 2014 to 2015

Patentability and commercial potential assessment on small molecule drug and life sciences invention disclosures.

4. University of Minnesota, College of Pharmacy, Department of Pharmaceutics

Research / teaching assistant, Ph.D. candidate, 2009-2015

Drug and vaccine delivery, lyophilization formulation, polymeric nanoparticle formulation, cancer Immunotherapy, microneedle transdermal drug delivery system (collaboration with 3M, St Paul, MN), library-based antibody screening.

*(Recipient of University of Minnesota **Doctoral Dissertation Fellowship** and **Edward G. Rippie Fellowship in Pharmaceutics**)*

5. Huazhong University of Science and Technology (HUST), Tongji Medical College, Department of Immunology

Research assistant, Master of Medicine in Immunology candidate, 2007-2009

Molecular cloning and sequence analysis of anti-TNF α monoclonal antibody variable region genes, construction and production of chimeric antibody, antibody affinity characterization.

Representative Awards and Publications

American Association of Pharmaceutical Scientists, Innovation in Biotechnology Award

"Intradermal Delivery of High Volume Polymeric Nanoparticle Based Vaccine Formulation Using a Hollow Microneedle System"

Journal of Controlled Release, featured in **Cover Story** (Prevention of nanoparticle aggregation during freeze-drying)

L Niu, and J Panyam. *Freeze concentration-induced PLGA and polystyrene nanoparticle aggregation: Imaging and rational design of lyoprotection*. J Controlled Release, 2017 Feb 28;248:125-132.

L Niu, L Chu, S Burton, K Hansen, J Panyam. *Intradermal Delivery of Vaccine Nanoparticles using Hollow Microneedle Array Generates Enhanced and Balanced Immune Response*. J Controlled Release, 2019 Jan 28;294:268-278.

SK Swaminathan, L Niu, N Waldron, S Kalscheuer, D.M. Zellmer, M.R. Olin, J.R. Ohlfest, D.A. Vallera, J Panyam. *Identification and Characterization of a Novel scFv Recognizing Human and Mouse CD133*. Drug Deliv. and Transl. Res. 2012 September.

H Kim, L Niu, P Larson, TA.Kucab, K.A.Murphy, B.R.James, D.M.Ferguson, T.S.Griffith, J Panyam. *Polymeric Nanoparticles Encapsulating Novel TLR7/8 Agonists as Immunostimulatory Adjuvants for Enhanced Cancer Immunotherapy*. Biomaterials, 2018 May;164:38-53.

T Sadhukha, L Niu, T.S. Wiedmann, J Panyam. *Effective Elimination of Cancer Stem Cells by Magnetic Hyperthermia*. Molecular Pharmaceutics. 2013 Apr 1;10(4):1432-41.

M Yu, X Zhou, L Niu, G Lin, J Huang, W Zhou, H Gan, J Wang, X Jiang, B Yin, and Z Li. *Targeting Transmembrane TNF- α Suppresses Breast Cancer Growth*. Cancer Research. 2013 Jul 1;73(13):4061-74.

Co-inventor, *Human transmembrane TNF-alpha monoclonal antibody and clinical application*. CN104140466A.

SK Swaminathan, E Roger, U Toti, L Niu, J.R. Ohlfest, and J Panyam. *CD133-Targeted Paclitaxel Delivery Inhibits Local Tumor Recurrence in a Mouse Model of Breast Cancer*. J Controlled Release, 2013 Nov 10;171(3):280-7.

L Niu, J Panyam. Book Chapter: *Intracellular Trafficking of Nanoparticles: Implications for Therapeutic Efficacy of the Encapsulated Drug*. Nanoparticulate Drug Delivery Systems: Strategies, Technologies, and Applications, Wiley, April 2013

M Yu, W Shi, J Zhang, L Niu, D Yan, B Yin, W Zhang, Q Li, Z Li. *Influence of Reverse Signaling via Membrane TNF-alpha on Cytotoxicity of NK92 Cells*. European Journal of Cell Biology. 2009 Mar;88(3):181-91.