

CURRICULUM VITAE

Li Liu, Ph.D.

PERSONAL INFORMATION

Name: Li Liu, Ph.D.
Title: Associate Professor, Department of Radiology
Graduate Program: Biomedical Engineering
The University of Texas Southwestern Medical Center
Office Address: 5323 Harry Hines Blvd, G2.232A, Dallas, TX, 75390-9058
Office Phone: (214) 648-8059
Fax: (214) 648-9580
Office Email: Li.Liu@utsouthwestern.edu
Office Website: <https://profiles.utsouthwestern.edu/profile/62664/li-liu.html>

EDUCATION

<u>Year</u>	<u>Degree</u>	<u>Field of Study</u>	<u>Institution</u>
1989	B.Sc.	Bioengineering	Inner Mongolia University, Hohhot, China
1999	M.S.	Microbiology	Inner Mongolia University, Hohhot, China
2002	Ph.D.	Microbiology	Nankai University, Tianjin, China

POSTDOCTORAL TRAINING

<u>Year(s)</u>	<u>Training</u>	<u>Specialty/Discipline</u>	<u>Institution</u>
2002	Fellowship	Postdoctoral Fellow <i>Molecular Pharmacology</i>	Max Planck Chemical and Ecology Institute, Jena, Germany
2003	Fellowship	Postdoctoral Fellow <i>Molecular Genetics & Microbiology</i>	University of Florida Medical Center, Gainesville, FL
2004	Fellowship	Postdoctoral Fellow <i>Molecular Cancer Imaging</i>	University of Texas Southwestern Medical Center, Dallas, TX

FACULTY ACADEMIC APPOINTMENTS

<u>Year(s)</u>	<u>Academic Title</u>	<u>Academic Department</u>	<u>Academic Institution</u>
2008-2013	Instructor	Radiology	University of Texas Southwestern Medical School, Dallas, TX
2013-2021	Assistant Professor	Radiology	University of Texas Southwestern Medical School, Dallas, TX
2021-Current	Associate Professor	Radiology	University of Texas Southwestern Medical School, Dallas, TX

PROFESSIONAL SOCIETIES

<u>Year(s)</u>	<u>Society Name</u>	<u>Role</u>
2004-Present	World Molecular Imaging Society	Member
2005-Present	American Association for Cancer Research	Member
2006-Present	World Association for Chinese Biomedical Engineers	Member
2017-Present	International Association for the Study of Lung Cancer	Member
2022-Present	ISMRM	Member
2022-Present	Radiation Research Society	Member
2023-Present	Serican Academy of Urology	Member

GRANT REVIEW ACTIVITIES

<u>Year(s)</u>	<u>Name of Committee</u>	<u>Organization</u>
2014	NIH U01 grant	National Institutes of Health (NIH)
2024	CDMRP-KCRP TRP	Department of Defense (DoD)
2024	CDMRP- PCR P DDP	Department of Defense (DoD)

EDITORIAL ACTIVITY

Editorial Board

<u>Year(s)</u>	<u>Journal Name</u>	<u>Editorial Role</u>
2014-Present	Frontiers in Oncology (<i>Surgical Oncology</i> section)	Editorial Board Member
2020-Present	Frontiers in Aging Neuroscience	Editorial Board Member
2022	Frontiers in Pharmacology (Special Issue: Pharmacology of Anti-Cancer)	Guest Editor
2023-present	Cancers- Recent Advances in Oncology Imaging (I & II)	Guest Editor
2024-present	Cancers- The Emerging Role of Multiplexed Imaging for Cancer Diagnosis and Therapy	Guest Editor

GRANT SUPPORT

RECENT GRANT AWARDS

Grantor:	1 R01 CA244579-01 (PI: Li Liu, Ph.D.)	Year(s):	2020-2025
Title of Project:	Vascular Image Guided Optimization of Response (VIGOR) to Therapy in Kidney Cancer		
Investigator Role:	Contact PI		
Annual Amount:	\$304,990		
Total Award Amount:	\$1,597,235		
Grantor:	ACS AT-24-1377992-01-CAT	Year(s):	2024-2025
Title of Project:	Image guided optimization of lung cancer treatment with novel heme-targeting agents		
Investigator Role:	PI		
Annual Amount:	\$150,000		
Total Award Amount:	\$150,000		
Grantor:	CHE-2155170 NSF/SMU (Lippert/Liu)	Year(s):	2023-2025
Title of Project:	1,2-Dioxetanes for Quantitative Chemiluminescence Imaging		
Investigator Role:	Subcontract PI		
Annual Amount:	\$24,880		
Total Award Amount:	\$75,786		
Grantor:	5R01HL158204(NIH-NHLBI)	Year(s):	2022-2026
Title of Project:	Novel nanoparticles to stimulate therapeutic angiogenesis in peripheral arterial disease		
Investigator Role:	MPI		
Annual Amount:	\$148,000		
Total Award Amount:	\$643, 471		
Grantor:	2024 Synergy Grant (Hao/Wang)	Years (s):	2024-2025
Title of Project:	ImmunoPET as a predictive imaging measure for enfortumab vedotin therapy in locally advanced and metastatic bladder cancer		
Investigator Role:	Co-Invest		
Total Award Amount:	\$100,000		
Grantor:	2023-REV-02261-NP		
Title of Project:	Golden nanoparticles application in kidney cancer mouse model		2023-2024
Investigator Role:	PI		
Total Award Amount:	\$50,000		

Grantor:	DoD kidney Cancer (Wang/Liu, Ph.D. Mentor)	Year(s):	2023-2025
Title of Project:	Heme-targeting agent and immunotherapy combinations in renal cell carcinoma		
Investigator Role:	Co-PI		
Annual Amount:	\$97,208		
Total Award Amount:	\$194,417		
Grantor:	RP200021 - CPRIT/UTD (Zhang/ Liu)	Year(s):	2020-2024
Title of Project:	Optimizing therapeutic strategies against lung cancer using Multi-Modality Imaging		
Investigator Role:	Co-PI		
Annual Amount:	\$150,000		
Total Award Amount:	\$450,000		

INVITED LECTURES AND PRESENTATIONS

International

<u>Year(s)</u>	<u>Presentation Title or Course Name</u>
2009	Novel biodegradable Fluorescent Polymers for Biomedical Applications. World Congress on Bioengineering. Hong Kong, China, July.
2009	Dynamic Bioluminescent and Fluorescence Imaging to study effect of Vascular Targeting Agents on tumor xenografts. World Congress on Bioengineering. Hong Kong, China, July.
2010	Assessment of vascular disrupting agent combretastatin-A4P on breast tumor using dynamic bioluminescent and fluorescent imaging, 12 th Tumor Microenvironment Meeting. Toronto, ON, Canada, May.
2011	Molecular imaging application in cancer diagnosis and therapy. Zhanjiang, Guangdong, China, July.
2015	How to be a doctor in the USA? Shiyan, Hubei, China, Oct.
2015	In Vivo Application for Molecular Imaging. Xian, Shanxi. China, Oct.
2015	Multimodality imaging insights into the efficacy of novel vascular disrupting agents. Xiamen, Fujian, China, Oct.
2016	Molecular Image Applications in lung Cancer, Wuhan, Hubei, China, Mar.
2016	Multimodality imaging application in breast cancer diagnosis and therapy. Wuhan, Hubei, China, Mar.
2016	Molecular Image Applications in translational cancer research, 2016 Shenzhen International Precision Mediation Summit, Shenzhen, China, Mar.
2017	In Vivo optical imaging application in cancer diagnosis and therapy, Chongqing, China, Apr.
2017	Optical imaging application in cancer research, Guangdong, Shenzhen, China, Apr.
2017	In vivo Multimodality imaging application in cancer diagnosis and therapy. Hong Kong, China, Apr.
2018	Combretastatin A-4 phosphate causes prolonged elevation of proteins involved in heme flux and function in H1299 lung tumor, The 4 th international workshop on Persistent and Photostimulable Phosphors, Beijing, China, Oct.
2018	Molecular imaging application in cancer research, Xiamen, Fujian, China, Apr.
2019	Exploring the Therapeutic Efficacy of Engineered Heme-Sequestering Peptides (HSP2) for treating non-small cell lung cancer orthotopic tumor model, BIT's 17th Annual Congress of International Drug Discovery Science and Technology (IDDST), Tokyo, Japan, Jul.
2019	Application of Multispectral Optoacoustic Tomography in Cancer Research, Xiamen Symposium of Molecular Imaging & Interventional Radiology, Xiamen, China, Nov.
2020	Kidney-specific nanoparticles for detection of Renal cell carcinoma by multimodality imaging, World Molecular Imaging Society virtual meeting, Oct.
2022	Evaluation of therapeutic strategies against lung cancer and kidney cancer using multimodality imaging, Radiology Faculty Research Day, UT Southwestern, Dallas, TX, Apr.
2023	Assessing the Efficacy of Heme-Targeting Agents with Radiation Therapy in Small Cell Lung Cancer. WMIC meeting, Sep., Prague, Czech Republic
2023	Imaging Technology in Urological Research, SAU annual meeting. Jan., Cancun, Mexican.
2024	Evaluation of novel therapeutic strategies against kidney cancer using multimodality imaging, CAU, Tianjin, China

Original Research Articles

- 1 Zhang T, Agula H, Zhang H, Liu L. Detection of potato leafroll luteovirus by reverse transcription and polymerase chain reaction. Chinese J Virol. 1996;12(4):385-387.
- 2 Ma X, Gao M, Liu L, Zhang H. Identification of strains of PSTVd in China and effect of PSTVd-infection on potato yield.

- Acta Scientiarum Naturalium Universitatis NeiMongol. 1996;27(4):562-568.
- 3 Ma X, Liu L, Zhang H. Effect of rare-earth elements on the growth of streptomyces spectabilis and the yield of actinospectacin. Acta Scientiarum Naturalium Universitatis NeiMongol. 1996;27(3):392-396.
- 4 Chen W, Liu L, Jin C. Cloning and Expression of MaltooligosylTrehalose Synthase from Sulfolobus shibatae in E. coli. Acta Microbiologica Sinica. 2000;40(1):57-61.
- 5 Liu L, Chen W, Jin C. Cloning and Expression of MHSase Gene from Sulfolobus shibatae in E. coli. Acta Microbiologica Sinica. 2000;40(4):323-326.
- 6 Liu L, Li M, Zhang L, Xing L. Identification of Mortierella isabellina M6-22 Δ^6 -fatty acid desaturase by heterologous expression in S. cerevisiae. Acta Microbiologica Sinica. 2001;41(4):399-401.
- 7 Li M, Liu L, Xing L. Cloning and sequencing analysis of Δ^6 -fatty acid desaturase gene from Mortierella isabellina M6-22. Mycosystema. 2001;20(1):44-50.
- 8 Liu L, Li M, Ge J, Xing L. Expression of Δ^6 -fatty acid desaturase gene from Mortierella alpina in Saccharomyces cerevisiae. Chinese J Biotechnol. 2001;17(2):161-164.
- 9 Li M, Liu L, Xing L. Expression of Mortierella isabellina Δ^6 -fatty acid desaturase gene in linolenic acid production in transgenic tobacco. J Chinese Biotechnol. 2003;19(2):178-184.
- 10 Liu L, Wu J, Chen W, Zhang S. Studies on the expression condition of engineered strain of the novel amylase from sulfolobus shibatae in E. coli. J Chinese Biotechnol. 2003;23(1):70-74.
- 11 Li M, Liu L, Xing L. Cloning, structure analysis and expression of the Δ^6 -fatty acid desaturase genes from Mortierella alpina ATCC16266 in Saccharomyces cerevisiae. Acta Microbiologica Sinica. 2003;43(2):220-227.
- 12 Li M, Liu L, Xing L. Study on the expression of Δ^6 -fatty acid desaturase gene of Mortierella alpina in transgenic tobacco. Acta Agronomica Sinica. 2004;(30):6: 618-621.
- 13 Yu J-X, Otten P, Ma Z, Cui W, Liu L, Mason RP. A Novel NMR Platform for Detecting Gene Transfection: Synthesis and Evaluation of Fluorinated Phenyl β -D-Galactosides with Potential Application for Assessing lacZ Gene Expression. Bioconjug Chem. 2004;15(6):1334-1341. PMID: 15546200
- 14 Yu J-X, Ma Z, Y Li, Koeneman KS, Liu L, Mason RP. Synthesis and Evaluation of a Novel Gene Reporter Molecule: Detection of β -galactosidase activity Using ^{19}F NMR of a Fluorinated Vitamin B6 conjugate. Med Chem. 2005;1(3): PMID: 16787321
- 15 Kodibagkar V, Yu J, Liu L, Mason RP. Imaging β -galactosidase activity using ^{19}F chemical shift imaging of LacZ gene-reporter molecule 2-fluoro-4-nitrophenol- β -D-galactopyranoside. Mag Reson Med. 2006;24: 959-962. PMID:16916713
- 16 Yu J-X, Liu L, Cui W, Mason RP. Synthesis and Evaluation of Novel Enhanced Gene Reporter Molecules: Detection of β -Galactosidase Activity Using ^{19}F NMR of Trifluoromethylated Aryl β -D-Galactopyranosides. Bioorg Med Chem. 2006;14(2):326-333. PMID: 16185878
- 17 Liu L, Kodibagkar V, Yu J-X, Mason RP. ^{19}F -NMR detection of lacZ gene expression via the enzymic hydrolysis of 2-fluoro-4-nitrophenyl β -galactopyranoside in vivo in PC3 prostate tumor xenografts in the mouse. FASEB J. 2007;21:2014-2019. PMID: 17351127
- 18 Su J, Zhang J, Liu L, Huang Y, Mason RP. Exploring feasibility of multicolored CdTe quantum dots for in vitro and in vivo fluorescent imaging, J Nanosci Nanotechnol. 2008 Mar;8(3):1174-7. PMID: 18468119
- 19 Zhang J, Su J, Liu L, Huang Y, Mason RP. Evaluation of red emitting CdTe and Near Infrared emitting CdHgTe Quantum dots by fluorescent Imaging. J Nanosci Nanotechnol. 2008;8:1155-1159. PMID: 18468115
- 20 Liu L, Zhang J, Su X, Mason RP. *In vitro* and *In vivo* Assessment of CdTe and CdHgTe Toxicity and Clearance. J Biomed Nanotechnol. 2008;4: 524-548. PMID: 19809576
- 21 Yu J-X, Kodibagkar V, Liu L, Mason RP. A ^{19}F NMR Approach using Reporter Molecule Pairs to Assess Beta-Galactosidase in Human Xenograft Tumors in Vivo. NMR in Biomedicine. 2008;21:704-712. PMID: 18288788
- 22 Su J, Zhang J, Liu L, Huang Y, Mason RP. Design, Exploring feasibility of multicolored CdTe quantum dots for in vitro and in vivo fluorescent imaging, J Nanosci Nanotechnol. 2008 Mar; 8(3):1174-7. PMID: 18468119
- 23 Yang J, Zhang Y, Gautam S, Liu L, Chen W, Mason RP, Tang L. Development of aliphatic biodegradable photoluminescent polymers. Proc Natl Acad Sci U S A. 2009 Jun 23;106(25):10086-91. PMID: 19506254
- 24 Gimi B, Kwon J, Liu L, Su Y et al. Cell encapsulation and oxygenation in nanoporous microcontainers. Biomed Microd. 2009; 11(6):1205-1212. PMID: 22196222
- 25 Liu L, Mason RP. In vivo detection of β -galactosidase activity in human tumor xenografts and transgenic mice using chemiluminescent imaging. PLoS One. 2010 Aug 6;5(8):e12024. PMID: 20700459
- 26 Cui W, Liu L, Kodibagkar V, Mason RP. S-Gal[®], A Novel ^1H MRI Reporter for β -Galactosidase. Magn Reson Med Online. 2010 May;64:65-71. PMID: 20572145
- 27 Mason RP, Zhao D, Liu L, Trawick ML, Pinney KG. A Perspective on Vascular Disrupting Agents that Interact with Tubulin: Preclinical Tumor Imaging and Biological Assessment. Integra Biol. 2011;3(4):375-87. PMID: 21321746
- 28 Du Y, An S, Liu L, Mason RP, Li L, Zhou X, Mohan C. Serial non-invasive monitoring of renal disease following immune-

- mediated injury using near-infrared optical imaging. *PLoS ONE*. 2012;7(9): e43941. PMID: 23049742
- 29 Yu J-X, Kodibagkar VD, Hallac R, Liu L, Mason RP. Dual $^{19}\text{F}/^1\text{H}$ MR gene reporter molecules for in vivo detection of β -galactosidase. *Bioconjug Chem*. 2012 Mar 21;23(3):596–603. PMID: 22352428
- 30 Liu L, Beck H, Wang X, Mason RP, Liu X. Tubulin-Destabilizing Agent BPR0L075 Induces Vascular-Disruption in Human Breast Cancer Mammary Fat Pad Xenografts. *PLoS ONE*. 2012;7(8):e43314. PMID: 22937031
- 31 Alhasan MK, Liu L, Lewis MA, Magnusson J, Mason RP. Comparison of Optical and Power Doppler Ultrasound Imaging for Non-Invasive Evaluation of Arsenic Trioxide as a Vascular Disrupting Agent in Tumors. *PLoS ONE*. 2012;7(9):1-8, e46106. PMID: 23029403
- 32 Yu J-X, Gulaka PK, Liu L, Kodibagkar VD, Mason RP. Novel Fe^{3+} -Based ^1H MRI β -Galactosidase Reporter Molecules. *Chem Plus Chem*. 2012; 23:596-603. PMID: 23807909
- 33 Yu J-X, Kodibagkar VD, Liu L, Zhang Z, Magnusson J, Liu Y. ^{19}F -MRS/ ^1H -MRI Dual-Function Probe for Detection of β -Galactosidase Activity. *Chem. Sci*. 2013;4:2132-2142. DOI: 10.1039/c3sc21099e
- 34 Gulaka PK, Yu J-X, Liu L, Mason RP, Kodibagkar VD. Novel S-Gal $^{\text{R}}$ analogs as ^1H MRI reporters for in vivo detection of β -galactosidase. *Magn Reson Imaging*. 2013 Jul;31(6):1006–1011. PMID: 23602729
- 35 Hadimani MB, MacDonough MT, Strecker TE, Lopez R, Sriram M, Liu L, Mason RP, Trawick ML, Pinney KG. Synthesis of a 2 Aryl-3-aryl Indole Salt (OXi8007) Resembling Combretastatin A 4 with Application as a Vascular Disrupting Agent. *J Nat Prod*. 2013 Sept 27;76(9):1668-78. PMID: 24016002.
- 36 Xie Z, Zhang Y, Liu L, Weng H, Mason RP, Tang L, Nguyen KT, Hsieh J-T, Yang J. Development of Intrinsically Photoluminescent and Photostable Polylactones. *Adv Mater*. 2014 Jul 9;26(26):4491-6. PMID: 24668888
- 37 Liu L, Su X, Mason RP. Dynamic contrast enhanced fluorescent molecular imaging of vascular disruption induced by Combretastatin-A4P in tumor xenografts. *J Biomed Nanotechnol*. Aug 2014;10(8):1545-51. PMID: 25016654.
- 38 Park JY, Gunpat J, Liu L, Edwards B, Christie A, Xie XJ, Kricka LJ, Mason RP. Red-shifted Emission from 1, 2- Dioxetane-based Chemiluminescent Reactions. *Luminescence*. 2014 Sep;29(6):553-8. PMID: 24760607
- 39 Kumar A, Hao G, Liu L, Ramezani S, Hsieh JT, Oz OK, Sun X. Click-Chemistry Strategy for Labeling Antibodies with Copper-64 via a Cross-Bridged Tetraazamacrocyclic Chelator Scaffold. *Bioconjug Chem*. 2015 Apr 15;26(4):782-9. PMID: 25760776
- 40 Liu L, Mason RP, Gimi B. Dynamic bioluminescence and fluorescence imaging of the effects of the antivascular agent Combretastatin-A4P (CA4P) on brain tumor xenografts. *Cancer Lett*. 2015 Jan 28;356(2 Pt B):462-469. PMID: 25305449
- 41 Zhou H, Hallac RR, Lopez R, Denney R, MacDonough MT, Li L, Liu L, Graves EE, Trawick ML, Pinney KG, Mason RP. Evaluation of tumor ischemia in response to an indole-based vascular disrupting agent using BLI and ^{19}F MRI. *Am J Nucl Med Mol Imaging*. 2015 Jan 15;5(2):143-153. PMID: 2597333
- 42 Yan Y, Xue L, Miller JB, Zhou K, Kos P, Elkassih S, Liu L, Nagai A, Xiong H, Siegwart DJ. One-pot synthesis of functional poly (amino ester sulfides) and utility in delivering pDNA and siRNA. *Polymer*. 2015;72:271-280. PMID: 26726270
- 43 Herdman C, Devkota L, Lin C, Niu H, Strecker T, Lopez R, Liu L, George CS, Tanpure RP, Hamel E, Chaplin D, Mason RP, Trawick ML, Pinney KG. Structural Interrogation of Benzosuberene-based Inhibitors of Tubulin Polymerization. *Bioorg Med Chem*. 2015 Dec 15;23(24):7497-520. PMID: 26775540
- 44 Strecker TE, Odutola SO, Lopez R, Cooper MS, Tidmore JK, Charlton-Sevcik AK, Li L, MacDonough MT, Hadimani MB, Ghatak A, Liu L, Chaplin DJ, Mason RP, Pinney KG, Trawick ML. The Vascular Disrupting Activity of OXi8006 in Endothelial Cells and Its Phosphate Prodrug OXi8007 in Breast Tumor Xenografts. *Cancer Lett*. 2015 Dec 1;369(1):229–241. PMID: 26325604
- 45 Rashidi LH, Homayoni H, Zou X, Liu L, Chen W. Investigation of the Strategies for Targeting of the Afterglow Nanoparticles to Tumor Cells. *Photodiagnosis Photodyn Ther*. 2016;13:244–25. PMID: 26253653
- 46 Herdman C, Strecker RC, Tanpure RP, Chen Z, Winters A, Gerberich J, Liu L, Hamel E, Mason RP, Chaplin DJ, Trawick ML, Pinney KG. Synthesis and biological evaluation of benzocyclooctene-based and indene-based anticancer agents that function as inhibitors of tubulin polymerization. *Medchemcomm*. 2016 Dec 1;7(12):418–2427. PMID: 28217276
- 47 Devkota L, Lin CM, Strecker TE, Wang Y, Tidmore JK, Chen Z, Guddneppanavar R, Jelinek CJ, Lopez R, Liu L, Hamel E, Mason RP, Chaplin DJ, Trawick ML, Pinney KG. Design, synthesis, and biological evaluation of water-soluble amino acid prodrug conjugates derived from combretastatin, dihydronaphthalene, and benzosuberene-based parent vascular disrupting agents. *Bioorg Med Chem*. 2016 Mar 1;24(5):938-56. PMID: 26852340
- 48 Yan Y, Liu L, Xiong H, Miller J, Zhou K, Kos P, Elkassih K, Norman J, Carstens R, Minna J, Siegwart D. Functional polyesters enable selective siRNA delivery to lung cancer over matched normal cells. *PNAS*. 2016, 113(39):E5702-5710
- 49 Bui B, Liu L, Chen W. Latex carrier for improving protoporphyrin IV for photodynamic therapy. *Photodiagnosis Photodyn Ther*. 2016;14:159-165. PMID: 27020668
- 50 Chen FY, Yi JW, Gu ZJ, Tang BB, Li JQ, Li L, Kulkarni P, Liu L, Mason RP, Tang Q. Inorganic phosphate-triggered release of anti-cancer arsenic trioxide from a self-delivery system: an in vitro and in vivo study. *Nanoscale*. 2016 Mar 10;8(11):6094-100. PMID: 26932298

- 51 Cao J, Campbell J, Liu L, Mason RP, Lippert AR. In Vivo Chemiluminescent Imaging Agents for Nitroreductase and Tissue Oxygenation. *Anal Chem*. 2016;88(9):4995–5002. PMID: 27054463
- 52 Yu M, Zhou C, Liu L, Zhang S, Sun X, Zheng J. Interactions of Renal-Clearable Gold Nanoparticles with Tumor Microenvironment: Vasculature- and Acidity-Effects. *Angew Chem Int Ed Engl*. 2017 Apr 3;56(15):4314-4319. PMID: 28295960
- 53 Yan Y, Zhou K, Xig H, Miller J, Liu L, Siegwart D. Aerosol delivery of stabilized polyester-siRNA nanoparticles to silence gene expression in orthotopic lung tumors. *Biomaterials*. 2017 Feb;118:84-93. PMID: 27974266
- 54 Ding C, Wu K, Wang W, Guan Z, Wang L, Wang X, Wang R, Liu L, Fan J. Synthesis of a cell penetrating peptide modified superparamagnetic iron oxide and MRI detection of bladder cancer. *Oncotarget*. 2017 Jan 17;8(3):4718-29. PMID: 27902468.
- 55 Huang B, Yang H, Cheng X, Wang D, Fu S, Shen W, Zhang Q, Zhang L, Xue Z, Li Y, Da Y, Yang Q, Li Z, Liu L, Qiao L, Kong Y, Yao Z, Zhao P, Li M, Zhang R. tRF/miR-1280 suppresses stem cell-like cells and metastasis in colorectal cancer. *Cancer Res*. 2017 Jun 15;77(12):3194-3206. PMID: 28446464
- 56 Dey S, Kumari S, Kalainayakan SP, Campbell J III, Ghosh P, Zhou H, FitzGerald KE, Li M, Mason RP, Zhang L, Liu L. The vascular disrupting agent combretastatin A-4 phosphate causes prolonged elevation of proteins involved in heme flux and function in resistant tumor cells. *Oncotarget*. 2017 Dec 28;9(3):4090-4101. PMID: 29423106
- 57 Liu Z, Nahhas A, Liu L, Ada E, Zhang X, Manohar SK. Synthesis of Fluorescent Polythiophene Dots (Pdots). *Journal of Nanomaterials*. 2018; Article ID 8987348.
- 58 Kalainayakan SP, Ghosh P, Dey S, FitzGerald K, Konduri PC, Sohoni S, Garrossian M, Liu L, Zhang L. Cyclopamine tartrate, a modulator of hedgehog signaling and mitochondrial respiration, effectively arrests lung tumor growth and progression. *Sci Rep*. 2019 Feb 5;9(1):1405. PMID: 30723259
- 59 Xin Y, Gao X, Liu L, GE WP, Jain MK, Cai H. Evaluation of L-1-[18F]Fluoroethyl-Tryptophan for PET Imaging of Cancer. *Mol Imaging Biol*. 2019 Dec;21(6):1138-1146. PMID: 30815792
- 60 Zhang Q, Huo X, Cheng Y, Chudal L, Pandey N, Zhang, J, Ma L, Xi Q, Yang G, Chen Y, Wang C, Zhao J, Li Y, Liu L, Yao Z, Ran X, Ran Y, Chen W, Zhang R. Using copper-cysteamine nanoparticles to simultaneously enable radiotherapy, oxidative therapy and immunotherapy for melanoma treatment. *Signal Transduct Target Ther*. 2020 May 15;5(1):58. PMID: 32409655.
- 61 Xi Q, Zhang J, Yang G, Zhang L, Chen Y, Wang C, Zhang Z, Guo X, Zhao J, Li Y, Da Y, Liu L, Yao Z, Zhang R. Restoration of miR-340 Controls Pancreatic Cancer Cell CD47 Expression to Promote Macrophage Phagocytosis and Enhance Anti-tumor Immunity. *J Immunother Cancer*. 2020 Jun;8(1):e000253. PMID: 32503944
- 62 Ghosh P, Guo Y, Ashrafi A, Chen J, Dey S, Zhong S, Liu J, Campbell J, Konduri P, Gerberich J, Garrossian M, Mason RP, Zhang L, Liu L. Oxygen-Enhanced Optoacoustic Tomography Reveals the Effectiveness of Targeting Heme at Normalizing Tumor Vascular Oxygenation. *Cancer Res*. 2020 Sep 1;80(17):3542–55. PMID: 32546631
- 63 Guo Y, Wang H, Gerberich JL, Odutola SO, Charlton-Sevcik AK, Li M, Tanpure RP, Tidmore JK, Trawick ML, Pinney KG, Mason RP, Liu L. Imaging-Guided Evaluation of the Novel Small-Molecule Benzosuberene Tubulin-Binding Agent KGP265 as a Potential Therapeutic Agent for Cancer Treatment. *Cancers (Basel)* 2021 Sep 13 19
- 64 Liu L, O'Kelly D, Schuetze R, Carlson G, Zhou H, Trawick ML, Pinney KG, Mason RP. Non-Invasive Evaluation of Acute Effects of Tubulin Binding Agents: A Review of Imaging Vascular Disruption in Tumors., *Molecules* 2021 Apr 26 9
- 65 Zhang L, Zhang K, Zhang J, Zhu J, Xi Q, Wang H, Zhang Z, Cheng Y, Yang G, Liu H, Guo X, Zhou D, Xue Z, Li Y, Zhang Q, Da Y, Liu L, Yin Z, Yao Z, Zhang R. Loss of fragile site-associated tumor suppressor promotes antitumor immunity via macrophage polarization. *Nat Commun* 12, 4300 (2021). <https://doi.org/10.1038/s41467-021-24610-x>.
- 66 Gao S, Zhao L, Fan Z1, Kodibagkar VD, Liu L, Wang H, Xu H, Tu M, Hu B, Cao C, Zhang Z, Yu J-X, In Situ Generated Novel 1H MRI Reporter for β -Galactosidase Activity Detection and Visualization in Living Tumor Cells, *Front Chem*. 2021 Jul 15;9. PMID: 34336792, PMCID: PMC8321238 DOI: 10.3389/fchem.2021.709581.
- 67 Qiao J, Liu J, Jacobson JC, Clark RA, Lee S, Liu L, et al. (2022) Anti-GRP-R monoclonal antibody antitumor therapy against neuroblastoma. *PLoS ONE* 17(12): e0277956. <https://doi.org/10.1371/journal.pone.0277956>
- 68 Ghosh P, Mason RP, Liu L, Zhang L, Modulation of heme and tumor vascular oxygenation- a novel strategy for lung cancer therapy, 2022 Dec. *Oncoscience* 9:66-69.DOI: 10.18632/oncoscience.56968
- 69 Gou Y, Liu L and Liang H (2022) Editorial: The developments of metal-based agents against lung cancer. *Front. Pharmacol*. 13:1101890. doi: 10.3389/fphar.2022.1101890
70. Liu L, Schuetze R, Gerberich JL, Lopez R, Odutola SO, Tanpure RP, Charlton-Sevcik AK, Tidmore JK, Taylor EA-S, Kapur P, Hammers H, Trawick ML, Pinney KG, Mason RP. Demonstrating Tumor Vascular Disrupting Activity of the Small-Molecule Dihydronaphthalene Tubulin-Binding Agent OXi6196 as a Potential Therapeutic for Cancer Treatment. *Cancers*. 2022; 14(17):4208. <https://doi.org/10.3390/cancers14174208>
71. Wang T, Ni Y, Liu L. Innovative Imaging Techniques for Advancing Cancer Diagnosis and Treatment. *Cancers (Basel)*. 2024 Jul 22;16(14):2607. doi: 10.3390/cancers16142607. PMID: 39061245; PMCID: PMC11274736.
72. Xi Q, Yang G, He X, Zhuang H, Li L, Lin B, Wang L, Wang X, Fang C, Chen Q, Yang Y, Yu Z, Zhang H, Cai W, Li Y, Shen H, Liu L, Zhang R. M⁶A-mediated upregulation of lncRNA TUG1 in liver cancer cells regulates the antitumor response of CD8⁺ T cells

and phagocytosis of macrophages. *Adv Sci (Weinh)*. 2024 Sep;11(34):e2400695. doi: 10.1002/advs.202400695. Epub 2024 Jul 9. PMID: 38981064; PMCID: PMC11425850.

73. Wanniarachchi HI, Schuetze R, Deng Y, Hamal KB, Pavlich CI, Tankoano PEO, Tamminga C, Hammers H, Kapur P, Bueno LMA, Rayas R, Wang T, Liu L*, Trawick ML, Pinney KG, Mason RP*. Evaluating Therapeutic Efficacy of the Vascular Disrupting Agent OXi8007 Against Kidney Cancer in Mice. *Cancers (Basel)*. 2025 Feb 24;17(5):771. doi: 10.3390/cancers17050771. PMID: 40075618; PMCID: PMC11898701.