

CURRICULUM VITAE

Li Liu, Ph.D.

PERSONAL INFORMATION

Name: Li Liu, Ph.D.
Title: Associate Professor, Department of Radiology
The University of Texas Southwestern Medical Center
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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 | 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 |

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 |

Friday, August 11, 2023

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|--------------|---|------------------------|
| 2020-Present | Frontiers in Aging Neuroscience | Editorial Board Member |
| 2022 | Frontiers in Pharmacology (Special Issue: Pharmacology of Anti-Cancer) | Guest Editor |
| 2023 | Cancers- Recent Advances in Oncology Imaging | Guest Editor |

GRANT SUPPORT

RECENT GRANT AWARDS

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|----------------------------|--|-----------------|-----------|
| Grantor: | DoD kidney Cancer (PI: Tianyuan Wang, Ph.D./ Li Liu, Ph.D. Mentor) | Year(s): | 2023-2025 |
| Title of Project: | Heme-targeting agent and immunotherapy combinations in renal cell carcinoma | | |
| Investigator Role: | PI of UT Southwestern Subcontract | | |
| Annual Amount: | \$97,208 | | |
| Total Award Amount: | \$194,417 | | |
| Grantor: | 1 R01 CA244579-01 (PI: Ralph P. Mason, Ph.D.) | Year(s): | 2020-2025 |
| Title of Project: | Vascular Image Guided Optimization of Response (VIGOR) to Therapy in Kidney Cancer | | |
| Investigator Role: | Co-Invest | | |
| Annual Amount: | \$304,990 | | |
| Total Award Amount: | \$1,597,235 | | |
| Grantor: | RP200021 - CPRIT/UTD (PI: Li Zhang, Ph.D./Li Liu, Ph.D.) | Year(s): | 2020-2023 |
| Title of Project: | Optimizing therapeutic strategies against lung cancer using Multi-Modality Imaging | | |
| Investigator Role: | PI of UT Southwestern Subcontract | | |
| 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 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 Medication 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 |
| Friday, August 11, 2023 | |

- 2020 Imaging & Interventional Radiology, Xiamen, China, Nov.
Kidney-specific nanoparticles for detection of Renal cell carcinoma by multimodality imaging, World Molecular Image 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.
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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 aplina* 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 Gimí 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 ¹⁹F/¹H 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 Fe³⁺-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. ¹⁹F-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[®] 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, Gimí 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 ¹⁹F 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 IX 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 (Pdts). *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>