

Zhihui Qin, Ph.D.

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HIGHLIGHTS

- Teach medicinal chemistry, drug design and pharmacology in pharmaceutical science and pharmacy programs.

Teaching and coordinating: Contemporary approaches to drug design (PHSC5450), Integrated Science and Therapeutics 3 (PHSC5205), Pharmacology and Medicinal Chemistry 1 (PHSC3801).

Teaching in other courses: Principles of Drug Design (PHSC5400), Integrated Science and Therapeutics 1 (PHSC5110), Integrated Science and Therapeutics 2 (PHMD5115), Integrated Science and Therapeutics 5 (PHMD5215), Pharmacology and Medicinal Chemistry 2 (PHSC3802), Medicinal Chemistry journal club (PHSC6300).

- Research experience in multiple scientific disciplines, such as Medicinal Chemistry, Pharmacology, Chemical Biology and Chemical Toxicology. In-depth knowledge of drug discovery and development.
- Hand-on experience on drug design, organic synthesis, analytical chemistry and instrumentation (HPLC, LC-MS, etc.), *in vitro* drug metabolism, experimental design for pharmacological characterization of novel drug candidates.

EDUCATION

- Ph.D. in Medicinal Chemistry, Department of Chemical Biology, School of Pharmaceutical Sciences, Peking University Health Science Center, China.
- B. S. in Medicinal Chemistry, School of Pharmaceutical Sciences, Peking University Health Science Center, China.

WORKING EXPERIENCES

- 08/2021- Associate Teaching Professor, Department of Pharmaceutical Sciences, Northeastern University.
- 09/2013- 08/2021 Assistant Professor, Department of Pharmaceutical Sciences, Wayne State University.

- 11/2004-09/2013 Postdoctoral Research Associate and Research Assistant Professor, Department of Medicinal Chemistry and Pharmacognosy, University of Illinois at Chicago.
- 09/2002-10/2004 Postdoctoral fellow, Department of Chemistry, Washington University in St. Louis.

PUBLICATIONS (* corresponding author)

1. **Zhihui Qin***, Siyu Ou, Liping Xu, Kathleen Sorensen, Yingxue Zhang, Dan-ping Hu, Zhe Yang, Wen-Yang Hu, Fei Chen, Gail S. Prins Design and synthesis of isothiocyanate-containing hybrid androgen receptor (AR) antagonists to downregulate AR and induce ferroptosis in GSH-deficient prostate cancer cells *Chemical Biology and Drug Design*, 2021, 97, 1059-78 DOI: [10.1111/cbdd.13826](https://doi.org/10.1111/cbdd.13826)
2. Wen-Yang Hu, Liping Xu (same contribution), Bailing Chen, Siyu Ou, Kendall M. Muzzarelli, Dan-Ping Hu, Ye Li, Zhe Yang, Donald J. Vander Griend, Gail S. Prins, **Zhihui Qin*** Targeting prostate cancer cells with enzalutamide-HDAC inhibitor hybrid drug 2-75 *The Prostate*, 2019, 79, 1166-1179. DOI: [10.1002/pros.23832](https://doi.org/10.1002/pros.23832)
3. Yi Liao, Liping Xu, Siyu Ou, Holly Edwards, Daniel Luedtke, Yubin Ge, **Zhihui Qin*** H₂O₂/peroxynitrite-activated hydroxamic acid HDAC inhibitor prodrugs show antileukemic activities in AML cells *ACS Medicinal Chemistry Letters*, 2018, 9, 635-640. DOI: [10.1021/acsmmedchemlett.8b00057](https://doi.org/10.1021/acsmmedchemlett.8b00057)
4. Yi Liao, Xiaojia Niu, Bailing Chen, Holly Edwards, Liping Xu, Chengzhi Xie, Hai Lin, Lisa Polin, Jeffrey W. Taub, Yubin Ge*, **Zhihui Qin*** Synthesis and antileukemic activities of piperlongumine and HDAC inhibitor hybrids against acute myeloid leukemia cell *Journal of Medicinal Chemistry*, 2016, 59, 7974-7990. DOI: [10.1021/acs.jmedchem.6b00772](https://doi.org/10.1021/acs.jmedchem.6b00772)
5. Rayna Rosati, Bailing Chen, Mugdha Patki, Thomas McFall, Siyu Ou, Elisabeth Heath, Manohar Ratnam*, **Zhihui Qin*** Hybrid enzalutamide derivatives with histone deacetylase inhibitor activity decrease heat shock protein 90 and androgen receptor levels and inhibit viability in enzalutamide-resistant C4-2 prostate cancer cells *Molecular Pharmacology*, 2016, 90, 225-237. DOI: [10.1124/mol.116.103416](https://doi.org/10.1124/mol.116.103416)
6. Jia Luo, Sue H. Lee, Lawren VandeVrede, **Zhihui Qin**, Manel Ben Aissa, John Larson, Andrew F. Teich, Ottavio Arancio, Yohan D'Souza, Ahmed Elharram, Kevin Koster, Leon M. Tai, Mary Jo LaDu, Brian M. Bennett, and Gregory R. J. Thatcher A multifunctional therapeutic approach to disease modification in multiple familial mouse models and a novel sporadic model of Alzheimer's disease *Molecular Neurodegeneration*, 2016, 11, 35. DOI: [10.1186/s13024-016-0103-6](https://doi.org/10.1186/s13024-016-0103-6)
7. Jia Luo, Sue H. Lee, Lawren VandeVrede, **Zhihui Qin**, Sujeewa Piyankarage, Ehsan Tavassoli, Rezene T. Asghodom, Manel Ben Aissa, Mauro Fà, Ottavio Arancio, Lan Yue, David R. Pepperberg, Gregory R. J. Thatcher Re-engineering a neuroprotective, clinical drug as a

- procognitive agent with high in vivo potency and with GABAA potentiating activity for use in dementia *BMC Neuroscience*, 2015, 16, 67-76. DOI: [10.1186/s12868-015-0208-9](https://doi.org/10.1186/s12868-015-0208-9)
8. Lawren VandeVrede, Ehsan Tavassoli, Jia Luo, **Zhihui Qin**, Lan Yue, David R. Pepperberg, Gregory R. J. Thatcher Novel analogues of chlormethiazole are neuroprotective in four cellular models of neurodegeneration by a mechanism with variable dependence on GABAA receptor potentiation *British Journal of Pharmacology*, 2014, 171, 389-402. DOI: [10.1111/bph.12454](https://doi.org/10.1111/bph.12454)
 9. **Zhihui Qin*** Modulating nitric oxide signaling in CNS for Alzheimer's Disease therapy (review) *Future Medicinal Chemistry*, 2013, 5, 1451-1468. DOI: [10.4155/fmc.13.111](https://doi.org/10.4155/fmc.13.111)
 10. Lawren VandeVrede, Ramy Abdelhamid, **Zhihui Qin**, Jaewoo Choi, Sujeewa Piyankarage, Jia Luo, John Larson, Brian M. Bennett, Gregory R. J. Thatcher An NO donor approach to neuroprotective and procognitive estrogen therapy overcomes loss of NO synthase function and potentially thrombotic risk *PLOS ONE*, 2013, 8, e70740. DOI: [10.1371/journal.pone.0070740](https://doi.org/10.1371/journal.pone.0070740)
 11. **Zhihui Qin**, Jia Luo, Lawren VandeVrede, Ehsan Tavassoli, Mauro Fa', Andrew F. Teich, Ottavio Arancio, Gregory R. J. Thatcher Design and synthesis of neuroprotective methylthiazoles and modification as NO-chimeras for neurodegenerative therapy *Journal of Medicinal Chemistry*, 2012, 55, 6784-6801. DOI: [10.1021/jm300353r](https://doi.org/10.1021/jm300353r)
 12. Bradley Michalsen, Teshome Gherezghiher, Jaewoo Choi, Esala Chandrasena, **Zhihui Qin**, Gregory R.J. Thatcher, Judy L. Bolton Selective estrogen receptor modulator (SERM) lasofoxifene forms reactive quinones similar to estradiol *Chemical Research in Toxicology*, 2012, 25, 1472-1483. DOI: [10.1021/tx300142h](https://doi.org/10.1021/tx300142h)
 13. Isaac T. Schiefer, Samer Abdul-Hay, Huali Wang, Michael Vanni, **Zhihui Qin**, Gregory R. J. Thatcher Inhibition of amyloidogenesis by nonsteroidal anti-inflammatory drugs and their hybrid nitrates *Journal of Medicinal Chemistry*, 2011, 54, 2293-2306. DOI: [10.1021/jm101450p](https://doi.org/10.1021/jm101450p)
 14. R. Abdelhamid, Jia Luo, Vandevrede L, I. Kundu, Bradley Michalsen, VA Litosh, Isaac T. Schiefer, Teshome Gherezghiher, Ping Yao, **Zhihui Qin**, Gregory R. J. Thatcher Benzothiophene selective estrogen receptor modulators provide neuroprotection by a novel GPR30-dependent mechanism *ACS Chemical Neuroscience*, 2011, 256-268. DOI: [10.1021/cn100106a](https://doi.org/10.1021/cn100106a)
 15. Kuan-Wei Peng, Minsun Chang, Yue-Ting Wang, Zhican Wang, **Zhihui Qin**, Judy L. Bolton, Gregory R. J. Thatcher Unexpected hormonal activity of a catechol equine estrogen metabolite reveals reversible glutathione conjugation *Chemical Research in Toxicology*, 2010, 23, 1374-1383. DOI: [10.1021/tx100129h](https://doi.org/10.1021/tx100129h)
 16. Kuan-Wei Peng, Huali Wang, **Zhihui Qin**, Gihani T. Wijewickrama, Meiling Lu, Zhican Wang, Judy L. Bolton, Gregory R. J. Thatcher Selective estrogen receptor modulator delivery of quinone warheads to DNA triggering apoptosis in breast cancer cells *ACS Chemical Biology*, 2009, 4, 1039-1049. DOI: [10.1021/cb9001848](https://doi.org/10.1021/cb9001848)
 17. **Zhihui Qin**, Irida Kastrati, Rezene T. Ashgodom, Daniel D. Lantvit, Cassia R. Overk, Yongsoo Choi, Richard B. van Breemen, Judy L. Bolton, Gregory R. J. Thatcher Structural modulation of oxidative metabolism in design of improved benzothiophene selective estrogen receptor

- modulators (SERMs) *Drug metabolism and Disposition*, 2009, 37(1), 161-169. DOI: [10.1124/dmd.108.023408](https://doi.org/10.1124/dmd.108.023408)
18. Bolan Yu, **Zhihui Qin**, Gihani T. Wijewickrama, Praneeth Edirisinghe, Judy L. Bolton, Gregory R. J. Thatcher Comparative methods for analysis of protein covalent modification by electrophilic quinoids formed from xenobiotics *Bioconjugate Chemistry*, 2009, 20, 728-741. DOI: [10.1021/bc800435m](https://doi.org/10.1021/bc800435m)
19. Zhican Wang, Praneeth Edirisinghe, Johann Sohn, **Zhihui Qin**, Nicholas E. Geacintov, Gregory R. J. Thatcher, Judy L. Bolton Development of a liquid chromatography electrospray ionization tandem mass spectrometry method for analysis of stable 4-hydroxyequilenin-DNA adducts in human breast cancer *Chemical Research in Toxicology*, 2009, 22, 1129-1136. DOI: [10.1021/tx900063g](https://doi.org/10.1021/tx900063g)
20. **Zhihui Qin**, Irida Kastrati, R. Esala P. Chandrasena, Hong Liu, Ping Yao, Pavel A. Petukhov, Judy L. Bolton, Gregory R. J. Thatcher Design & synthesis of benzothiophene SERMs with modulated oxidative activity & receptor affinity *Journal of Medicinal Chemistry*, 2007, 50, 2682-2692. DOI: [10.1021/jm070079j](https://doi.org/10.1021/jm070079j)
21. Hong Liu, **Zhihui Qin**, Gregory R. J. Thatcher, Judy L. Bolton Uterine peroxidase oxidizes raloxifene and desmethylated arzoxifene to diquinone methides *Chemical Research in Toxicology*, 2007, 20, 1676-1684. DOI: [10.1021/tx7001367](https://doi.org/10.1021/tx7001367)
22. Bolan Yu, Birgit M. Dietz, Tareisha Dunlap, Irida Kastrati, Daniel D. Lantvit, Cassia R. Overk, Ping Yao, **Zhihui Qin**, Judy L. Bolton, Gregory R. J. Thatcher Structural modulation of reactivity/activity in design of improved benzothiophene SERMs: Induction of chemopreventive mechanisms *Molecular Cancer Therapeutics*, 2007, 6, 2418-2428. DOI: [10.1158/1535-7163.MCT-07-0268](https://doi.org/10.1158/1535-7163.MCT-07-0268)
23. Minsun Chang, Cassia Overk, Kuan-Wei Peng, **Zhihui Qin**, Ping Yao, Judy, L. Bolton, Irida Kastrati, Gregory R.J. Thatcher Activation of estrogen receptor-mediated gene transcription by the equine estrogen metabolite, 4-methoxyequilenin, in human breast cancer cells *Endocrinology*, 2007, 148, 4793-4802. DOI: [10.1210/en.2006-1568](https://doi.org/10.1210/en.2006-1568)
24. Tamara S. Dowers, **Zhihui Qin**, Gregory R. J. Thatcher, Judy L. Bolton Bioactivation of selective estrogen receptor modulators (SERMs) *Chemical Research in Toxicology*, 2006, 19, 1125-1137 (review). DOI: [10.1021/tx060126v](https://doi.org/10.1021/tx060126v)
25. He-Qing Huang, Shu-Chun Li, **Zhihui Qin**, Sheng-Li Cao, Yun Yao, Yu-Shi Liu, Huai-Yu Li, Meng-Shen Cai, Zhong-Jun Li, You-En Shi Synthesis and bioactivities of two multiple antigen peptides as potential vaccine against schistosoma *Bioorganic & Medicinal Chemistry Letters*, 2005, 15, 2415-2419. DOI: [10.1016/j.bmcl.2005.01.040](https://doi.org/10.1016/j.bmcl.2005.01.040)
26. **Zhihui Qin**, Chang-Xue Lin, Yong Ju, Yu-Fen Zhao Synthesis of serine/alanine conjugated 3',5'-TpT *Nucleosides, Nucleotides & Nucleic Acids*, 2003, 22, 63-69. DOI: [10.1081/NCN-120018623](https://doi.org/10.1081/NCN-120018623)

27. **Zhihui Qin**, Chang-Xue Lin, Yi Chen, Yong Ju, Yu-Fen Zhao Electrospray ionization mass spectrometry of serine/alanine conjugated 5'-UMP and 3',5'-dithymidine phosphoramidates *Rapid Communications in Mass Spectrometry*, 2002, 16, 1997-2002. DOI: [10.1002/rcm.803](https://doi.org/10.1002/rcm.803)
28. **Zhihui Qin**, Hong Liu, Hui Li, Meng-Shen Cai, Zhong-Jun Li Synthesis of a potential tetrasaccharide ligand for E-selectin *Carbohydrate Research*, 2002, 337, 621-628. DOI: [10.1016/S0008-6215\(02\)00028-9](https://doi.org/10.1016/S0008-6215(02)00028-9)
29. **Zhihui Qin**, Hui Li, Meng-Shen Cai, Zhong-Jun Li Bromonium ion-promoted glycosidic bond formation and simultaneous bromination of an activated aryl aglycon *Carbohydrate Research*, 2002, 337, 31-36. DOI: [10.1016/S0008-6215\(01\)00276-2](https://doi.org/10.1016/S0008-6215(01)00276-2)

PATENT

Zhihui Qin, Liping Xu Electrophilic androgen receptor (AR) antagonists for AR downregulation and ferroptosis induction in cancer cells US 12,133,846 B2 (Patent filed by Wayne State University)