Zhang Wei

Position: Associate Professor, PhD

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Teaching Modules: Analytical chemistry (BP12203/ BPAZ0012); Analytical chemistry laboratory(BP12204); Fundamental chemistry laboratory (BP12103); Pharmacokinetics of Chinese medicines(ME1012); Instrumental analysis(ME1002);Individual studies in Chinese medicine (DCMSZ02); Pharmaceutical analysis

Research Areas: Use of chemometrics methods to deal with all steps of analytical procedures; Phytochemical analysis and quality assessment of traditional Chinese medicines based on modern instruments; Nucleotide and deoxynucleotide metabolism

Dr. Wei Zhang obtained his PhD from China pharmaceutical university in 2008. He proceeded to his post-doctoral training at Department of pharmacology from Yale University School of Medicine during 2008-2012. In the Yale University, He has published several well-recognized research articles including identification of PHY906 chemicals and their metabolites in patient plasma and determination of all ribonucleotides and deoxyribonucleotides. He also joined the study of mechanism of PHY906 and published research article in the journal of Science Translational Medicine as a co-author, which has been reported by the Nature News & Comment and Science Daily News. In August 2012, he moved to Macau University of Science and Technology as an assistant professor. Dr. Zhang's research has focused on phytochemical analysis and quality assessment of traditional Chinese medicines by modern instruments together with

chemometric methods. His team has also discovered several nucleotide biomarkers and mechanism based combination therapy strategies for overcoming nucleotide analogs resistance for targeted therapies. He has published over 50 peer-reviewed SCI journals including Science Translational Medicine， Journal of Chromatography A, Biochemical Pharmacology, Analyst, Analytical and Bioanalytical Chemistry, Food and Chemical Toxicology, Analytica Chimica Acta, Talanta ,Frontiers in Pharmacology and etc. As principal investigator, Dr. Zhang has undertaken or participated in several grants from The Macao Foundation, Macao Science and Technology Development Fund (FDCT), National Natural Science Foundation of China (NSFC) and the joint research fund of NSFC and FDCT.

Academic Qualifications:

2000.7 **B.S.** China pharmaceutical university, Nanjing, China

2008.7 **PhD.** China pharmaceutical university, Nanjing, China

Working Experiences

2017/8 -Present	Associate professor, State Key Laboratory for Quality Research in Chinese Medicines, Macau University of Science and Technology
2012/8-2017/7	Assistant Professor, State Key Laboratory for Quality Research in Chinese Medicines, Macau University of Science and Technology
2011/8-2012/8	Manager of core lab of Yale Cancer Center, School of Medicine, Yale University
2012/1-2012/8	Associate Research Scientists, School of Medicine, Yale University
2008/8-2011/12	Post-Doctoral Associate, School of Medicine, Yale University

Representative Publications:

Selected articles published in SCI journals in the recent past years: (* Corresponding author)

[1] W. Zhang, J. He, S. Liu, W. Niu, P. Liu, Y. Zhao, F. Pang, W. Xi, M. Chen, W. Zhang, S.S. Pang, Y. Ding, Atomic origins of high electrochemical CO2 reduction efficiency on nanoporous gold, Nanoscale, 10 (2018) 8372-8376.

[2] Q.Q. Zhang, W.Q. Huang, Y.Q. Gao, Z.D. Han, W. Zhang, Z.J. Zhang, F.G. Xu, Metabolomics

Reveals the Efficacy of Caspase Inhibition for Saikosaponin D-Induced Hepatotoxicity, Front Pharmacol, 9 (2018) 732.

[3] M.P. Liu, W. Li, C. Dai, C.W.K. Lam, Z. Li, J.F. Chen, Z.G. Chen, W. Zhang *, M.C. Yao *, Aqueous extract of Sanguisorba officinalis blocks the Wnt/-catenin signaling pathway in colorectal cancer cells, Rsc Advances, 8 (2018) 10197-10206.

[4] X. Ling, Y. Xiang, F. Chen, Q. Tang, W. Zhang*, X. Tan*, Intestinal absorption differences of major bioactive compounds of Gegenqinlian Decoction between normal and bacterial diarrheal mini-pigs in vitro and in situ, J Chromatogr B Analyt Technol Biomed Life Sci, 1083 (2018) 93-101.

[5] J. Guo, Y. Li, C.W.K. Lam, C. Wang, M. Yao*, W. Zhang*, ZH-1 enhances the anticancer activity of gemcitabine via deoxyribonucleotide synthesis and apoptotic pathway against A549 cells, Food Chem Toxicol, (2018).

[6] X.M. Dai, D.N. Cui, J. Wang, W. Zhang, Z.J. Zhang, F.G. Xu, Systems Pharmacology Based Strategy for Q-Markers Discovery of HuangQin Decoction to Attenuate Intestinal Damage, Front Pharmacol, 9 (2018) 236.

[7] X. Wang, D.N. Cui, X.M. Dai, J. Wang, W. Zhang, Z.J. Zhang, F.G. Xu, HuangQin Decoction Attenuates CPT-11-Induced Gastrointestinal Toxicity by Regulating Bile Acids Metabolism Homeostasis, Front Pharmacol, 8 (2017) 156.

[8] D.Z. Shi, M.Y. Xu, M.Y. Re, E.S. Pan, C.H. Luo, W. Zhang*, Q.F. Tang*, Immunomodulatory Effect of Flavonoids of Blueberry (Vaccinium corymbosum L.) Leaves via the NF-kappa B Signal Pathway in LPS-Stimulated RAW 264.7 Cells, Journal of Immunology Research, (2017).

[9] Z. Li, J.R. Guo, Q.Q. Chen, C.Y. Wang, W.J. Zhang, M.C. Yao, W. Zhang*, Exploring the Antitumor Mechanism of High-Dose Cytarabine through the Metabolic Perturbations of Ribonucleotide and Deoxyribonucleotide in Human Promyelocytic Leukemia HL-60 Cells, Molecules, 22 (2017).

[10] B.Y.K. Law, F. Gordillo-Martínez, Y.Q. Qu, N. Zhang, S.W. Xu, P.S. Coghi, S.W.F. Mok, J. Guo, W. Zhang, E.L.H. Leung, X.X. Fan, A.G. Wu, W.K. Chan, X.J. Yao, J.R. Wang, L. Liu, V.K.W. Wong, Thalidezine, a novel AMPK activator, eliminates apoptosis-resistant cancer cells through energy-mediated autophagic cell death, Oncotarget, 8 (2017) 30077-30091.

[11] Q. Guo, Q.Q. Zhang, J.Q. Chen, W. Zhang, H.C. Qiu, Z.J. Zhang, B.M. Liu, F.G. Xu, Liver metabolomics study reveals protective function of Phyllanthus urinaria against CCl4-induced liver

injury, Chinese Journal of Natural Medicines, 15 (2017) 525-533.

[12] J.R. Guo, Z. Li, C.Y. Wang, C.W.K. Lam, Q.Q. Chen, W.J. Zhang, V.K.W. Wong, M.C. Yao, W. Zhang*, Profiling of ribonucleotides and deoxyribonucleotides pools in response to DNA damage and repair induced by methyl methanesulfonate in cancer and normal cells, Oncotarget, 8 (2017) 101707-101719.

[13] C. Dai, M.P. Liu, W.J. Zhang, C.W.K. Lam, J.R. Guo, W. Li, J. Wu, J.F. Chen, Z.G. Chen, W. Zhang*, M.C. Yao*, A material-basis study of Aloe vera on the wnt/beta-catenin signaling pathway using a knockin/knockout method with high-speed countercurrent chromatography, Rsc Advances, 7 (2017) 38819-38829.

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[19] J.R. Guo, Q.Q. Chen, C.W.K. Lam, C.Y. Wang, V.K.W. Wong, Z.F. Chang, W. Zhang*, Profiling ribonucleotide and deoxyribonucleotide pools perturbed by gemcitabine in human non-small cell lung cancer cells, Scientific Reports, 6 (2016) 9.

[20] H.M. Guo, J.Q. Chen, Y. Huang, W. Zhang, F.G. Xu, Z.J. Zhang, A pseudo-kinetics approach for time-series metabolomics investigations: more reliable and sensitive biomarkers revealed in

vincristine-induced paralytic ileus rats, Rsc Advances, 6 (2016) 54471-54478.

[21] Q.Q. Chen, J.R. Guo, S.M. Feng, C.Y. Wang, W. Zhang*, Quantitation of ligupurpurosides B and C in rat plasma using HPLC-MS/MS, Chinese Journal of Natural Medicines, 14 (2016) 473-480.

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[35] W. Zhang, M.W. Saif, G.E. Dutschman, X. Li, W. Lam, S. Bussom, Z. Jiang, M. Ye, E. Chu, Y.-C. Cheng, Identification of chemicals and their metabolites from PHY906, a Chinese medicine formulation, in the plasma of a patient treated with irinotecan and PHY906 using liquid chromatography/tandem mass spectrometry (LC/MS/MS), Journal of Chromatography A, 1217 (2010) 5785-5793.

[36] W. Lam, S. Bussom, F. Guan, Z. Jiang, W. Zhang, E.A. Gullen, S.-H. Liu, Y.-C. Cheng, The Four-Herb Chinese Medicine PHY906 Reduces Chemotherapy-Induced Gastrointestinal Toxicity, Science Translational Medicine, 2 (2010).

[37] W. Zhang, G.E. Dutschman, X. Li, M. Ye, Y.-C. Cheng, Quantitation of Irinotecan and its two major metabolites using a liquid chromatography-electrospray ionization tandem mass spectrometric, Journal of Chromatography B-Analytical Technologies in the Biomedical and Life Sciences, 877 (2009) 3038-3044.

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Book Chapter Publication

Wing Lam , Scott Bussom , Zaoli Jiang , Wei Zhang , Fulan Guan , Shwu-Huey Liu , and Yung-Chi Cheng , “Inflammation, Oxidative Stress and Cancer: Dietary Approaches for Cancer Prevention” CRC press, INC.,(ISBN 9781466503700), Chapter Number 29, ”PHY906,a cancer adjuvant therapy,differentially affects inflammation of different tissues”

Membership of Academic Association and Community Services

1. Editor: International Journal of Pharmaceutical Sciences Research,2016- Present
2. International advisory: Pharmacology and Pharmacotherepeutics, 2012- Present;
3. Reviewer: Journal of Chromatography B；Biomedical Chromatography；Biotechnology Advances；PLOS ONE；Journal of Separation Science; Current Pharmaceutical Analysis；Molecular Medicine Reports；Frontiers in Pharmacology；Analytical chemistry

Membership and community services:

1. Member of the Macau Laboratory Technologist Association (MLTA, Macao)
2. Executive Council Member of the Board of Specialty Committee of Immunology of Traditional Chinese Medicine of the World Federation of Chinese Medicine Societies

Academic Awards:

Bank of China (BOC, Macau Branch) Excellent Research Award 2014