

蔡婉琪 (Wan-Chi Tsai)

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ACADEMIC EDUCATIONS AND CAREER

2014~present	Director, Division of Student Exchange, Office of Global Affairs, Kaohsiung Medical University
2011~present	Assistant Professor, Department of Medical Laboratory Science and Biotechnology, Kaohsiung Medical University, Kaohsiung, Taiwan
2008~2011	Assistant Professor, School of Medical Laboratory and Biotechnology, Chung Shan Medical University, Taichung, Taiwan
2007~2008	Postdoctoral Fellow, College of Pharmacy, Ohio State University, Columbus, OH, U.S.A.
2000~2006	Graduate Student, Institute of Basic Medical Sciences, Medical College, National Cheng Kung University, Tainan, Taiwan.
1996~2000	Undergraduate Student, Department of Biomedical Laboratory Science, Kaohsiung Medical University, Kaohsiung, Taiwan.

PROFESSIONAL SPECIALTY

- Tumor biology
- Molecular biology
- Signal transduction

AREAS OF PROFESSIONAL INTEREST

- Evaluate the potential and decipher the mechanisms of Chinese herbal medicine and marine natural products in cancer treatment.
- Study the clinical indication and fundamental mechanisms of S100A2, a potential

tumor suppressor in oral cancer.

TEACHING COURSES

Molecular diagnostics, Molecular biology, Cancer medicine, Signaling pathways, Angiogenesis

PUBLICATIONS

1. Wan-Chi Tsai, Sonia Ibarra-Buscano, Chi-Chuan Kan, Cybelle Morales Futralan, Maria Lourdes P. Dalida, Meng-Wei Wan. Removal of copper, nickel, lead, and zinc using chitosan-coated montmorillonite beads in single- and multi-metal system. *Desalination and Water Treatment*. 2015 1–14 (SCI)
2. Sung-Pin Tseng, Wan-Chi Tsai, Chih-Yuan Liang, Yin-Shiou Lin, Jun-Wei Huang, Chung-Yu Chang, Yu-Chang Tyan, and Po-Liang Lu. The Contribution of Antibiotic Resistance Mechanisms in Clinical *Burkholderia cepacia* Complex Isolates: An Emphasis on Efflux Pump Activity. *PLoS One*. 2014 Aug 25;9(8):e104986.
3. Wen-Hung Wang, Yu-Chang Tyan, Zong-Shiow Chen, Ching-Gong Lin, Ming-Hui Yang, Shyng-Shiou Yuan and Wan-Chi Tsai*. Evaluation of the antioxidant activity and anti-proliferative effect of the jaboticaba (*Myrciaria cauliflora*) seed extracts in oral carcinoma cells. *BioMed Research International* 2014; 2014:185946. (SCI)
4. Ming-Hui Yang, Shyng-Shiou Yuan, Tze-Wen Chung, Shiang-Bin Jong, Chi-Yu Lu, Wan-Chi Tsai, Wen-Cheng Chen, Po-Chiao Lin, Pei-Wen Chiang, and Yu-Chang Tyan. Characterization of Silk Fibroin Modified Surface: A Proteomic View of Cellular Response Proteins Induced by Biomaterials. *BioMed Research International*, vol. 2014(2014), Article ID 209469, 13 pages, doi:10.1155/2014/209469. (SCI)
5. Ming-Hui Yang, Hung Su, Yi-Ling Chen, Chi-Yu Lu, Wan-Chi Tsai, Yu-Chang Tyan*, Yu-Chun Liu, Ching-Wen Kuo, Yu-Ching Hsu. Utilized mass spectrometry-based protein profiling system to identify potential biomarkers of hepatocellular carcinoma. *Biomarkers and Genomic Medicine* 2013 5(3), 96–99
6. Ming-Hui Yang, Yi-Ling Chen, Chi-Yu Lu, Wan-Chi Tsai, Yu-Chang Tyan*, Yu-Chun Liu, Ching-Wen Kuo, Yu-Ching Hsu. Is NAP an additional neuroprotector in Alzheimer's disease? *Biomarkers and Genomic Medicine* 2013 5(3), 103-106

7. Yi-Shan Lu, Ming-Hui Yang, Chi-Yu Lu, Wan-Chi Tsai, Yu-Chang Tyan, Yu-Ching Hsu, Ching-Wen Kuo, Yu-Chun Liu. The proteomic study of the Ultraviolet-C irradiation effect for *Vigna radiata*. *J. Agri. & Fore.* 2013. 62(1): 65-78
8. Wen-Chi Yang, Wan-Chi Tsai, Pai-Mei Lin, Ming-Yu Yang, Yi-Chang Liu, Chao-Sung Chang, Wen-Hui Yu, Sheng-Fung Lin. Human BDH2, an anti-apoptosis factor, is a novel poor prognostic factor for de novo cytogenetically normal acute myeloid leukemia. *J Biomed Sci.* 2013 Aug 14;20(1):58. (SCI)
9. Ming-Hui Yang, Hsien-Yi Wang, Chi Yu Lu, Wan-Chi Tsai, Po-Chiao Lin, Shih-Bin Su and Yu-Chang Tyan. Proteomic profiling for peritoneal dialysate: Differential protein expression in diabetes mellitus. *Biomed Res Int.* 2013;2013:642964. (SCI)
10. Chih-Yu Peng, Pin-Chung Fong, Cheng-Chia Yu, **Wan-Chi Tsai**, Yew-Ming Tzeng, Wen-Wei Chang*. Methyl antcinatate A suppresses the population of cancer stem-like cells in MCF7 human breast cancer cell line. 2013, *Molecules* 18(3):2539-48 (SCI)
11. Kuo-Jung Hsien, Cybelle M. Futralan, **Wan-Chi Tsai**, Chi-Chuan Kan, Chun-Shuo Kung, Yun-Hwei Shen, Meng-Wei Wan*. Adsorption characteristics of copper(II) onto non-crosslinked and cross-linked chitosan immobilized on sand. 2013, *Desalination and Water Treatment.* 51(28-30):5574-82. (SCI)
12. Tyan YC, Yang MH, Chung TW, Lu CY, **Tsai WC**, Jong SB*. Assessing human urinary proteome using a mass spectrometry-based profiling system combined with magnetic nanoparticles. 2012, *Clin Chim Acta.* 420:54-61. (SCI)
13. Lee YP*, **Tsai WC***, Ko CJ*, Rao YK, Yang CR, Chen DR, Yang MH, Yang CC and Tzeng YM. Anticancer effects of eleven triterpenoids derived from *Antrodia camphorata*. 2012, *Anticancer Research* 32(7):2727-34. (SCI)
14. Lin YC, Wang WH, **Tsai WC**, Chen CC, Chen WC and Lee KF*. Predicting the Early Invasiveness of Nasopharyngeal Mucosal Neoplasia After Radiotherapy by Narrow-Band Imaging: A Pilot Study. *Head Neck.* 2013 Jan;35(1):46-51. (SCI)
15. Lin YC, Wang WH, Lee KF, **Tsai WC**, Weng HH*. Value of Narrow-Band

Imaging Endoscopy in Early Mucosal Head and Neck Cancer. 2012, *Head & Neck*. 35(1):46-51. (SCI)

16. Grisdanurak, N, Akewaranugulsiri S, Futralan C, **Tsai WC**, Kan CC, Hsu CW, Wan MW*. The Study of Copper Adsorption from Aqueous Solution using Crosslinked Chitosan Immobilized on Bentonite. 2012, *Journal of applied polymer science* 125(S2): E132–42 (SCI)
17. **Tsai WC**, Kan CC, Futralan C, Dalida MP, Wan MW*. The Multi-Metals Adsorption of Single and Binary System using Chitosan Coated Bentonite Beads. 2011, *Journal of Science and Technology* 4(45):144-8.
18. Dalida MLP, Mariano AFV, Futralan CM, Kan CC, **Tsai WC*** and Wan MW*. Adsorptive removal of Cu(II) from aqueous solutions using non-crosslinked and crosslinked chitosan-coated bentonite beads. 2011, *Desalination* 275:154-9. (SCI)
19. **Tsai WC**, Lin YC, Tsai ST, Shen WH, Chao TL, Lee SL, Wu LW*. Lack of modulatory function of coding nucleotide polymorphism S100A2_185G>A in oral squamous cell carcinoma. 2010, *Oral Diseases* 17(3):283-290. (SCI)
20. **Tsai WC**, Rao YK, Lin SS, Chou MY, Shen YT, Wu CH, Geethangili M, Yang CC*, Tzeng YM*. Methylantcinatate A induces tumor specific growth inhibition in oral cancer cells via Bax-mediated mitochondrial apoptotic pathway. 2010, *Bioorganic & Medicinal Chemistry Letters* 15;20(20):6145-8. (SCI)
21. Wei S, Chuang HC, **Tsai WC**, Yang HC, Ho SR, Paterson AJ, Kulp SK, and Chen CS*. Thiazolidinediones mimic glucose starvation in facilitating Sp1 degradation through the upregulation of β -TRCP. 2009, *Molecular Pharmacology* 76:47-57. (SCI)
22. **Tsai WC**, Tsai ST, Jin YT, Wu LW*. Cyclooxygenase-2 is involved in S100A2-mediated tumor suppression in squamous cell carcinoma. 2006, *Mol Cancer Res* 4:539-547. (SCI)
23. Tsai ST, Jin YT, **Tsai WC**, Wang ST, Lin YC, Chang MT, Wu LW*. S100A2, a potential marker for early recurrence in early-stage oral cancer. 2005, *Oral Oncol* 41:349-357. (SCI)
24. **Tsai WC**, Tsai ST, Ko JY, Jin YT, Li C, Huang W, Young KC, Lai MD, Liu HS, Wu LW*. The mRNA profile of genes in betel quid chewing oral cancer patients. 2004, *Oral Oncol* 40:418-26. (SCI)
25. Jih YJ, Lien WH, Tsai WC, Yang GW, Li C, Wu LW*. Distinct regulation of

genes by bFGF and VEGF-A in endothelial cells. 2001, *Angiogenesis* 4:313-21.
(SCI)

CONFERENCE PUBLICATIONS

1. Bo-Cian Huang, Jyh-Horng Sheu, **Wan-Chi Tsai***. Evaluation of the anti-cancer potential of sinuleptolide in pancreatic cancer model. The 12th Annual Meeting of Japanese Society of Medical Oncology 2014. Fukuoka, Japan, 2014.(Poster)
2. Chiao-Yu Chiang , Yew-Min Tzeng, **Wan-Chi Tsai***. Evaluation of the potential as an anti-pancreatic cancer drug of ovatodiolide. The 12th Annual Meeting of Japanese Society of Medical Oncology 2014. Fukuoka, Japan, 2014.(Poster)
3. Li-Ting Tseng, Ping-Chang Lin, Yu-Chang Tyan, **Wan-Chi Tsai***. The Combined-treatment of Clioquinol and Copper Induces G2/M Arrest on HSC-3 Cells. The 29th Joint Annual Conference of Biomedical Sciences (JCSB). Taipei, Taiwan, 2014. (Poster)
4. Ya-Wen Hsu, **Wan-Chi Tsai**, Yi-Ju Tsai*. Sleep quality mediates the association between stress and physical quality of life in emerging adulthood. APHA 141st Annual Meeting and Exposition. Boston, MA. November 2-6, 2013. (Oral presentation)
5. Wan-Yu Wu, **Wan-Chi Tsai***. The Effect of Novel Histone Deacetylase Inhibitors in Human Pancreatic Carcinoma. The 28th Joint Annual Conference of Biomedical Sciences (JCSB). Taipei, Taiwan, 2013. (Poster)
6. Ping-Chang Lin, **Wan-Chi Tsai***. The Anti-Cancer Effects of Clioquinol on Human Oral Squamous Cell Carcinoma. The 28th Joint Annual Conference of Biomedical Sciences (JCSB). Taipei, Taiwan, 2013. (Poster)
7. **Wan-Chi Tsai**. The anti-cancer potential and possible mechanism of clioquinol in pancreatic cancer. International Symposium on Pancreas Cancer 2012. Kyoto, Japan, 2012. (Poster)

8. **Wan-Chi Tsai**, Ching Gong Lin, Li Ting Tzeng, Zong-Shiow Chen. The antioxidant and anti-proliferative activity of the myrciaria cauliflora extract. 21st Asia Pacific Cancer Conference. Kuala Lumpur, Malaysia, 2011. (Poster)
9. **Wan-Chi Tsai**, Ching Gong Lin, Li Ting Tzeng, Zong-Shiow Chen. The antioxidant and anti-proliferation effects of lotus plumule extracts on oral squamous cell carcinoma cell lines. 2011 International Conference of Inflammation, Cancer, and Metabolic Disorders. Miaoli, Taiwan, 2011. (Poster)
10. **Wan-Chi Tsai**, Chi-Chuan Kan, Ibarra-Buscano, S., Maria L. Dalida, Meng-Wei Wan. Selectivity Sequence and Adsorption Mechanism of Multi-Metals in Aqueous Solution using Chitosan- Bentonite Composite Beads. International Conference on Challenges in Environmental Science & Engineering. Tainan, Taiwan, 2011. (Oral presentation)
11. **Wan-Chi Tsai**, Chi-Chuan Kan, Cybelle Futralan, Maria L. Dalida, Meng-Wei Wan. The multi-metals adsorption of single and binary system using chitosan coated bentonite beads. International Forum on Green Technology and Management (IFGTM). Da Nang, Vietnam, 2011. (Oral presentation)
12. Yen-Yu Liu, **Wan-Chi Tsai**. The Anti-cancer Potential of Clioquinol-derivatives in Pancreatic Cancer. The 26th Joint Annual Conference of Biomedical Sciences (JCSB). Taipei, Taiwan, 2011. (Poster)
13. **Wan-Chi Tsai**, Yew-Min Tzeng and Chi-Chiang Yang. The anti-tumor effects of cytotoxic triterpenes from Antrodia camphorata in oral carcinoma cells. The 4th World Congress of International Federation of Head and Neck Oncologic Societies (IFHNOS). Seoul, Korea, 2010. (Poster)
14. **Wan-Chi Tsai**, Shih-Shen Lin, Ming-Yung Chou, Madamanchi Geethangili, Yi-Ting Shen, Chih-Hao Wu, Yew-Min Tzeng and Chi-Chiang Yang. The Selective Apoptotic Cytotoxicity of Methylantcinate A from Antrodia Camphorata in Oral Cancer Cells. The 25th Joint Annual Conference of Biomedical Sciences (JCSB). Taipei, Taiwan, 2010. (Poster)
15. **Wan-Chi Tsai**, Chen-Hsun Tsai, Jing-Ru Weng, Samuel K. Kulp and Ching-Shih Chen. OSU-A9, an Indole-3-Carbinol derivative, is a new potential antitumor agent for advanced pancreatic cancer. The 100th American Association for Cancer Research (AACR). Denver, CO, U.S.A., 2009. (Poster)
16. **Wan-Chi Tsai**, Wen-Hao Shen, Sen-Tien Tsai, Li-Wha Wu. G182A polymorphism in S100A2 coding sequence: lack of association with the anti-tumor effect by S100A2 in oral cancer cells. The 24th Joint Annual Conference of Biomedical Sciences (JCSB). Taipei, Taiwan, 2009. (Poster)
17. **Wan-Chi Tsai**, Sen-Tien Tsai, Yin-Tai Jin, Li-Wha Wu. The tumor suppression role of S100A2 in human oral squamous carcinoma cells. The 21th Joint Annual

- Conference of Biomedical Sciences (JCSB). Taipei, Taiwan, 2006. (Oral presentation)
18. **Wan-Chi Tsai**, Sen-Tien Tsai, Li-Wha Wu. The tumor suppressor role of S100A2 in human epidermal carcinoma cells. The 96th American Association for Cancer Research (AACR). Anaheim, CA, U.S.A., 2005. (Poster)
 19. **Wan-Chi Tsai**, Sen-Tien Tsai, Li-Wha Wu. Characterizing the molecular function of S100A2 in oral carcinogenesis. The 19th Joint Annual Conference of Biomedical Sciences (JCSB). Taipei, Taiwan, 2004. (Poster)
 20. **Wan-Chi Tsai**, Sen-Tien Tsai, Li-Wha Wu. Profiling expression of genes in betel-quid chewing related oral cancers. The 4th Asian-Pacific Organization for Cell Biology Congress (APOCB). Taipei, Taiwan, 2002. (Poster)

AWARDS

1. 高雄醫學大學 101 學年度健康科學院 2011 年研究績優教師 優秀論文獎
2. Young Investigator Award, International Symposium on Pancreas Cancer 2012, Kyoto, Japan
3. 萬孟璋、甘其銓、**蔡婉琪**，「生物吸附料及其製造方法」，2012 年台北國際發明暨技術交易展，金牌獎。
4. 萬孟璋、甘其銓、**蔡婉琪**，「生物吸附料及其製造方法 (Bioadsorbent and its Producing Method)」，2011 年第 63 屆德國紐倫堡國際發明展(iENA, Nürnberg)，金牌獎。

PATENT

1. 萬孟璋、甘其銓、**蔡婉琪**。生物吸附料及其製造方法，中華民國專利，發明型(申請案號第 099103509 號)，公開號：201127885，公開日：2011.08.16。法定日：2014.03.13。
2. 莊世享、**蔡婉琪**、曾惠英、許澤宇、吳瑞瑤。淨水處理系統，中華民國專利，新型，證書號數：M442359。公告日：中華民國 101(2012) 年 12 月 01 日

GRANTS

1. 日與夜的對話: 睡眠型態和身體活動量間的交互作用對肥胖與憂鬱症的危險因子之探討(102-2410-H-041-009-) 科技部 2013/08/01~2014/07/31 執行中 共同主持人 834,000
2. Gellan gum 水膠做為 3D 腫瘤球體基質與口腔癌治療貼片之研究 (101-2221-E-040-003-MY3) 科技部 2012/08/01~2015/07/31 執行中 共同主持人 2,654,000

3. 窄頻影像系統偵測頭頸部全域性癌化(100-2314-B-182-066-) 科技部
2011/08/01~2012/08/31 已結案 共同主持人 850,000
4. Occludin 蛋白在腦部腫瘤轉移中的角色及臨床應用 中山醫學大學
2008/08/01~2009/07/31 已結案 設計並執行整個計畫，撰寫研究成 400,020
5. 金屬螯合劑 clioquinol 衍生物對口腔癌之治療潛力 (2/3) 嘉義長庚醫院
2012/09/01~2013/08/31 已結案 共同主持人 725,500
6. 金屬螯合劑 clioquinol 對胰臟癌之治療潛力評估及機制探討 高雄醫學大學
2011/12/15~2012/12/31 已結案 計畫主持人 350,000
7. Biomarkers for the early diagnosis, prediction, prognosis for colorectal cancers
中研院 2012/01/01~2016/12/31 執行中 子計畫主持人 5,000,000
8. 海洋天然物及其類似物於醫藥開發之潛力 中山大學高醫大學合作研究計畫
2013/01/01~2013/12/31 執行中 子計畫主持人 500,000
9. The underlying mechanism and clinical implication of clioquinol in pancreatic
cancer treatment. 奇美醫療財團法人 2013/07/01~2014/06/30 執行中 共同主
持人 240,000
10. 海洋天然物及其類似物於醫藥開發之潛力 國立中山大學高雄醫學大學攻頂
聯盟 2014/01/01~2014/12/31 執行中 子計畫主持人 930,000