

Chien-Kuo Tai, Ph.D.
Department of Life Science
National Chung Cheng University

Office: 05-2720411 ext.66508
E-mail: biockt@ccu.edu.tw

Education

University of Southern California, Ph.D., 2002, Pathobiology

Professional Experience

Postdoctoral Researcher, Department of Medicine, UCLA, CA, 2002-2005

Assistant Professor, Department of Life Science, National Chung Cheng University, Taiwan, 2005-2010

Associate Professor, Department of Life Science, National Chung Cheng University, Taiwan, 2010-2015

Professor & Department Chair, Department of Life Science, National Chung Cheng University, Taiwan, 2015-present

Honors and Awards

The Susan G. Komen Breast Cancer Foundation dissertation research award, 1999

California Breast Cancer Research Program pre-doctoral fellowship award, 1999-2000

The Susan G. Komen Breast Cancer Foundation postdoctoral fellowship research award, 2005

Major Areas of Research Interest

1. Development of improved viral vectors for cancer gene therapy.
2. Targeting of therapeutic gene transfer to specific tissues and tumors.
3. Cancer research and cancer biomarkers.

Publications (2010-present)

1. Chou JL, Su HY, Chen LY, Liao YP, Hartman-Frey C, Lai YH, Yang HW, Deatherage DE, Kuo CT, Huang YW, Yan PS, Hsiao SH, **Tai CK**, Lin HJL, Davuluri RV, Chao TK, Nephew KP, Huang THM, Lai HC, and Chan MWY. Promoter hypermethylation of *FBXO32*, a novel TGF- β /SMAD4 target gene and tumor suppressor, is associated with poor prognosis in human ovarian cancer. *Laboratory Investigation*. March 2010; 90(3): 414-425. (SCI)
2. Lu YC, Luo YP, Wang YW, and **Tai CK***. Highly efficient gene transfer to solid tumors *in vivo* by tumor-selective replicating retrovirus vectors. *International Journal of Molecular Medicine*. May 2010; 25(5): 769-775. (SCI) (*Correspondence)
3. Ho CL, Huang YC, **Tai CK**, Liu ST, Wang JK, Wang WM, and Huang SM. Modulation of the Zacl's transactivation and coactivation functions via PML and Daxx within distinct subcellular

localizations. *The International Journal of Biochemistry & Cell Biology*. June 2010; 42(6): 902-910. (SCI)

4. **Tai CK***, Wang WJ, Lai YH, Logg CR, Parker WB, Li YF, Hong JS, Sorscher EJ, Chen TC, and Kasahara N. Enhanced efficiency of prodrug activation therapy by tumor-selective replicating retrovirus vectors armed with the *Escherichia coli* purine nucleoside phosphorylase gene. *Cancer Gene Therapy*. September 2010; 17(9): 614-623. (SCI) (*Correspondence)
5. Lu YC, Chen YJ, Yu YR, Lai YH, Cheng JC, Li YF, Shen CH, and **Tai CK***. Replicating retroviral vectors for oncolytic virotherapy of experimental hepatocellular carcinoma. *Oncology Reports*. July 2012; 28(1): 21-26. (SCI) (*Correspondence)
6. Lin MS, **Tai CK***, Shen CH, Ma TL, and Tu DG. Primary erector spinae pyomyositis with an epidural abscess. *The Spine Journal*. September 2013; 13(9): 1156-1157. (SCI) (*co-first author)
7. Li YF, Lin CC, and **Tai CK***. Interaction of Intercellular Adhesion Molecule 1 (ICAM1) Polymorphisms and Environmental Tobacco Smoke on Childhood Asthma. *Int. J. Environ. Res. Public Health*. June 2014; 11(6): 6504-6516. (SCI) (*Correspondence)
8. Tu DG, **Tai CK***. 99mTc DMSA Scan Predicts Dilating Vesicoureteral Reflux in Young Children With a First Febrile Urinary Tract Infection a Population-Based Cohort Study: A Suggestion Regarding the Statistical Analysis Method Used. *Clin. Nucl. Med.* October 2014; 39(10): 938. (SCI) (*Correspondence)
9. Lai YH, He RY, Chou JL, Chan M, Li YF, **Tai CK***. Promoter hypermethylation and silencing of tissue factor pathway inhibitor-2 in oral squamous cell carcinoma. *Journal of Translational Medicine*. September 2014; 12(1): 237, 1-13. (SCI) (*Correspondence)
10. Lai YH, Lin CC, Chen SH, **Tai CK***. Tumor-specific suicide gene therapy for hepatocellular carcinoma by transcriptionally targeted retroviral replicating vectors. *Gene Therapy*. February 2015; 22(2): 155-162. (SCI) (*Correspondence)
11. Lin HY, Hung SK, Lee MS, Chiou WY, Huang TT, Tseng CE, Shih LY, Lin RI, Lin JM, Lai YH, Chang CB, Hsu FC, Chen LC, Tsai SJ, Su YC, Li SC, Lai HC, Hsu WL, Liu DW, **Tai CK**, Wu SF, Chan MW. DNA methylome analysis identifies epigenetic silencing of FHIT as a determining factor for radiosensitivity in oral cancer: an outcome-predicting and treatment-implicating study. *Oncotarget*. January 20, 2015; 6(2): 915-934. (SCI)
12. Chou JL, Huang RL, Shay J, Chen LY, Lin SJ, Yan PS, Chao WT, Lai YH, Lai YL, Chao TK, Lee CI, **Tai CK**, Wu SF, Nephew KP, Huang THM, Lai HC, Chan MW. Hypermethylation of the TGF- β target, ABCA1 is associated with poor prognosis in ovarian cancer patients. *Clinical Epigenetics*. January 2015; 7(1):1, 1-11. (SCI)
13. Li YF, Hsiao YH, Lai YH, Chen YC, Chen YJ, Chou JL, Chan M, Lin YH, Tsou YA, Tsai MH, **Tai CK***. DNA methylation profiles and biomarkers of oral squamous cell carcinoma. *Epigenetics*. March 2015; 10(3): 229-236. (SCI) (*Correspondence)

14. Chen YJ, Chen SY, Lovel R, Ku YC, Lai YH, Hung CL, Li YF, Lu YC, **Tai CK***. Enhancing chemosensitivity in oral squamous cell carcinoma by lentivirus vector-mediated RNA interference targeting *EGFR* and *MRP2*. *Oncology Letters* (in press). (SCI) (*Correspondence)
15. Tu DG, Jan MS, Hsu CD, Chen YC, Lee YR, **Tai CK***. Promotion of metastasis of thyroid cancer cells via NRP-2-mediated induction. *Oncology Letters* (in press). (SCI) (*Correspondence)

Abstracts and Presentations (2010-present)

1. Lai YH, Lin CC, and **Tai CK**. Transcriptional targeting of tumor-selective retrovirus to hepatocellular carcinoma. (Abstract selected for poster presentation at the 18th Symposium on Recent Advances in Cellular and Molecular Biology, Ping-Tung, Taiwan, January 20-22, 2010.)
2. Chou JL, Su HY, Chen LY, Liao YP, Hartman-Frey C, Lai YH, Yang HW, Deatherage DE, Kuo CT, Huang YW, Yan PS, Hsiao SH, **Tai CK**, Lin HJL, Davuluri RV, Chao TK, Nephew KP, Huang THM, Lai HC, and Chan MWY. Promoter hypermethylation of *FBXO32*, a novel TGF- β /SMAD4 target gene and tumor suppressor, is associated with poor prognosis in human ovarian cancer. (Abstract selected for poster presentation at the 101st Annual Meeting of the American Association for Cancer Research, Washington, DC, April 17-21, 2010.)
3. Lu YC, Lovel R, Hung CL, and **Tai CK**. Effects of RNAi on drug resistance in oral squamous cell carcinoma. (Abstract selected for poster presentation at the 15th Taiwan Joint Cancer Conference, Taipei, Taiwan, May 1-2, 2010.)
4. Lai YH and **Tai CK**. Tumor-Selective Suicide Gene Therapy by Transcriptionally Targeted Replicating Retrovirus Vectors. *Molecular Therapy* supplement. May, 2011; 19: S201. (Abstract selected for poster presentation at the 14th Annual Meeting of the American Society of Gene & Cell Therapy, Seattle, Washington, May 18-21, 2011.)
5. Lu YC, Lai YH, Chen SH, and **Tai CK**. Targeting of Tumor-Selective Retrovirus Vectors to Cancer. (Abstract selected for poster presentation at the 16th Taiwan Joint Cancer Conference, Taipei, Taiwan, April 30-May 1, 2011.)
6. Li YF, Hsiao YH, and **Tai CK**. Methylation Array Analysis of Tissue DNA in Oral Squamous Cell Cancer Patients in Taiwan. *J Cancer Sci Ther* Special Issues: Proceedings of Cancer Science & Therapy-2011. S1.19-20. (Abstract selected for oral presentation at the International Conference and Exhibition on Cancer Science & Therapy, Las Vegas, Nevada, August 15-17, 2011.)
7. He RY, Chen YJ, Lai YH, and **Tai CK**. Epigenetic Status and Role of Bone Morphogenetic Protein 3 (BMP3) in Oral Squamous Cell Carcinoma. (Abstract selected for poster presentation at the 27th Joint Annual Conference of Biomedical Sciences, Taipei, Taiwan, March 17-18, 2012.)
8. Chiu YT, Chang HF, Lin SC, Yang YH, and **Tai CK**. Adipose-derived Stem Cells as the Vehicles of Therapeutic Retrovirus for Treating Glioma. (Abstract selected for poster presentation at the 27th Joint Annual Conference of Biomedical Sciences, Taipei, Taiwan, March 17-18, 2012.)

9. Lai YH and **Tai CK**. Tumor-Selective Suicide Gene Therapy for Hepatocellular Carcinoma by Transcriptionally Targeted Replicating Retrovirus Vectors. (Abstract selected for oral presentation at the 27th Joint Annual Conference of Biomedical Sciences, Taipei, Taiwan, March 17-18, 2012.)
10. Chen YJ, Chen SY, Lovel R, and **Tai CK**. Enhancing the Chemosensitivity of Oral Cancer by Downregulation of EGFR and MRP2 Genes via Lentivirus Vector-Mediated RNAi. (Abstract selected for poster presentation at the 27th Joint Annual Conference of Biomedical Sciences, Taipei, Taiwan, March 17-18, 2012.)
11. Lai YH and **Tai CK**. Tumor-specific suicide gene therapy for hepatocellular carcinoma by transcriptionally targeted replicating retrovirus vectors. (Abstract selected for poster presentation at 2012 International Society for Cell & Gene Therapy of Cancer meeting, Singapore, October 4-6, 2012.)
12. **Tai CK**. Tumor-selective replicating retroviral vectors for gene therapy of cancer. (Invited to present at the 2nd International Congress on Natural Sciences, Kaohsiung, Taiwan, October 23-25, 2012)
13. Chen YC and **Tai CK**. DNA Methylation Level and Gene Expression of FLT4 in Oral Cancers. (Abstract selected for poster presentation at the 29th Joint Annual Conference of Biomedical Sciences, Taipei, Taiwan, March 15-16, 2014.)