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## BIOGRAPHICAL SKETCH

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NAME in English <b>Kun-Yi Chien</b>	POSITION TITLE <b>Associate Professor, Department of Biochemistry and Molecular Biology</b>
NAME in Chinese <b>簡昆鎰</b>	

EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Soochow University	B.S.	06/87	Microbiology
National Tsing Hua University	Ph.D.	06/93	Physical Biochemistry
National Tsing Hua University	Postdoctoral	12/01	Physical Biochemistry

### A. Positions and Honors

#### Positions and Employment

2002-2003	Assistant Research Professor, Chang Gung Memorial Hospital, Taiwan
2003-2013	Assistant Professor, Chang Gung University, Taiwan
2013-2017	Associate Professor, Chang Gung University, Taiwan

#### Other Experience and Professional Memberships

2004-	Member, Taiwan Proteomics Society
2004-	Member, Taiwan Society for Mass Spectrometry
2005-	Member, Human Proteome Organization (HUPO)
2008-2011	Council member, Taiwan Proteomics Society

#### Honors

### B. Selected Peer-reviewed Publications (2012-2017) (in chronological order)

1. Tsai MH, Wu CC, Peng PH, Liang Y, Hsiao YC, Chien KY, Chen JT, Lin SJ, Tang RP, Hsieh LL, Yu JS. Identification of secretory gelsolin as a plasma biomarker associated with distant organ metastasis of colorectal cancer. *J Mol Med (Berl)*. 2012 Feb;90(2):187-200.
2. Feng Y, Chien KY, Chen HL, Chiu CH. Pseudogene recoding revealed from proteomic analysis of salmonella serovars. *J Proteome Res*. 2012 Mar 2;11(3):1715-9.
3. Lin SY, Li TY, Liu Q, Zhang C, Li X, Chen Y, Zhang SM, Lian G, Liu Q, Ruan K, Wang Z, Zhang CS, Chien KY, Wu J, Li Q, Han J, Lin SC. GSK3-TIP60-ULK1 signaling pathway links growth factor deprivation to autophagy. *Science*. 2012 Apr 27;336(6080):477-81.
4. Sun NK, Huang SL, Chien KY, Chao CC. Golgi-SNARE GS28 potentiates cisplatin-induced apoptosis by forming GS28-MDM2-p53 complexes and by preventing the ubiquitination and degradation of p53. *Biochem J*. 2012 Jun 1;444(2):303-14
5. Hsieh YJ, Chien KY, Lin SY, Sabu S, Hsu RM, Chi LM, Lyu PC, Yu JS. Photofrin binds to procaspase-3 and mediates photodynamic treatment-triggered methionine oxidation and inactivation of procaspase-3. *Cell Death Dis*. 2012 Jul 12;3:e347.

6. Lin SY, Li TY, Liu Q, Zhang C, Li X, Chen Y, Zhang SM, Lian G, Liu Q, Ruan K, Wang Z, Zhang CS, Chien KY, Wu J, Li Q, Han J, Lin SC. Protein phosphorylation-acetylation cascade connects growth factor deprivation to autophagy. *Autophagy*. 2012 Sep;8(9):1385-6.
7. Chen CY, Weng YH, Chien KY, Lin KJ, Yeh TH, Cheng YP, Lu CS, Wang HL. (G2019S) LRRK2 activates MKK4-JNK pathway and causes degeneration of SN dopaminergic neurons in a transgenic mouse model of PD. *Cell Death Differ*. 2012 Oct;19(10):1623-33.
8. Wang CI, Chien KY, Wang CL, Liu HP, Cheng CC, Chang YS, Yu JS, Yu CJ. Quantitative proteomics reveals regulation of karyopherin subunit alpha-2 (KPNA2) and its potential novel cargo proteins in nonsmall cell lung cancer. *Mol Cell Proteomics*. 2012 Nov;11(11):1105-22.
9. Chen CL, Lai YF, Tang P, Chien KY, Yu JS, Tsai CH, Chen HW, Wu CC, Chung T, Hsu CW, Chen CD, Chang YS, Chang PL, Chen YT. Comparative and targeted proteomic analyses of urinary microparticles from bladder cancer and hernia patients. *J Proteome Res*. 2012 Dec 7;11(12):5611-29.
10. Dong YM, Chien KY, Chen JT, Lin SJ, Wang TC, Yu JS. Site-specific separation and detection of phosphopeptide isomers with pH-mediated stacking capillary electrophoresis-electrospray ionization-tandem mass spectrometry. *J Sep Sci*. 2013 May;36(9-10):1582-9.
11. Chen CL, Lin TS, Tsai CH, Wu CC, Chung T, Chien KY, Wu M, Chang YS, Yu JS, Chen YT. Identification of potential bladder cancer markers in urine by abundant-protein depletion coupled with quantitative proteomics. *J Proteomics*. 2013 Jun 24;85:28-43.
12. Chen JT, Ho CW, Chi LM, Chien KY, Hsieh YJ, Lin SJ, Yu JS. Identification of the lamin A/C phosphoepitope recognized by the antibody P-STM in mitotic HeLa S3 cells. *BMC Biochem*. 2013 Jul 19;14:18.
13. Chang KP, Wang CL, Kao HK, Liang Y, Liu SC, Huang LL, Hseuh C, Hsieh YJ, Chien KY, Chang YS, Yu JS, Chi LM. Overexpression of caldesmon is associated with lymph node metastasis and poorer prognosis in patients with oral cavity squamous cell carcinoma. *Cancer*. 2013 Nov 15;119(22):4003-11.
14. Lin SJ, Chang KP, Hsu CW, Chi LM, Chien KY, Liang Y, Tsai MH, Lin YT, Yu JS. Low-molecular-mass secretome profiling identifies C-C motif chemokine 5 as a potential plasma biomarker and therapeutic target for nasopharyngeal carcinoma. *J Proteomics*. 2013 Dec 6;94:186-201.
15. Chen CD, Wang CL, Yu CJ, Chien KY, Chen YT, Chen MC, Chang YS, Wu CC, Yu JS. Targeted proteomics pipeline reveals potential biomarkers for the diagnosis of metastatic lung cancer in pleural effusion. *J Proteome Res*. 2014 Jun 6;13(6):2818-29.
16. Gopinath RK, You ST, Chien KY, Swamy KB, Yu JS, Schuyler SC, Leu JY. The Hsp90-dependent proteome is conserved and enriched for hub proteins with high levels of protein-protein connectivity. *Genome Biol Evol*. 2014 Oct 13;6(10):2851-65.
17. Chang KP, Lin SJ, Liu SC, Yi JS, Chien KY, Chi LM, Kao HK, Liang Y, Lin YT, Chang YS, Yu JS. Low-molecular-mass secretome profiling identifies HMGA2 and MIF as prognostic biomarkers for oral cavity squamous cell carcinoma. *Sci Rep*. 2015 Jul 3;5:11689.
18. Huang HW, Liu BS, Chien KY, Chiang LC, Huang SY, Sung WC, Wu WG. Cobra venom proteome and glycome determined from individual snakes of *Naja atra* reveal medically important dynamic range and systematic geographic variation. *J Proteomics*. 2015 Oct 14;128:92-104.
19. Geng J, Sun X, Wang P, Zhang S, Wang X, Wu H, Hong L, Xie C, Li X, Zhao H, Liu Q, Jiang M, Chen Q, Zhang J, Li Y, Song S, Wang HR, Zhou R, Johnson RL, Chien KY, Lin SC, Han J, Avruch J, Chen L, Zhou D. Kinases Mst1 and Mst2 positively regulate phagocytic induction of reactive oxygen species and bactericidal activity. *Nat Immunol*. 2015 Nov;16(11):1142-52.
20. Tang WF, Huang RT, Chien KY, Huang JY, Lau KS, Jheng JR, Chiu CH, Wu TY, Chen CY, Horng JT. Host MicroRNA miR-197 Plays a Negative Regulatory Role in the Enterovirus 71 Infectious Cycle by Targeting the RAN Protein. *J Virol*. 2015 Nov 18;90(3):1424-38.
21. Janapatla RP, Hsu MH, Liao WT, Chien KY, Lee HY, Chiu CH. Low Serum Fetuin-A as a Biomarker to Predict Pneumococcal Necrotizing Pneumonia and Hemolytic Uremic Syndrome in Children. *Medicine (Baltimore)*. 2016 Mar;95(13):e3221.
22. Fang YK, Chien KY, Huang KY, Cheng WH, Ku FM, Lin R, Chen TW, Huang PJ, Chiu CH, Tang P. Responding to a Zoonotic Emergency with Multi-omics Research: *Pentatrichomonas hominis* Hydrogenosomal Protein Characterization with Use of RNA Sequencing and Proteomics. *OMICS*. 2016 Nov;20(11):662-669.
23. Huang KY, Wang YH, Chien KY, Janapatla RP, Chiu CH. Hyperinvasiveness of *Salmonella enterica* serovar *Choleraesuis* linked to hyperexpression of type III secretion systems in vitro. *Sci Rep*. 2016 Nov 25;6:37642.
24. Kung YA, Hung CT, Chien KY, Shih SR. Control of the negative IRES trans-acting factor KHSRP by ubiquitination. *Nucleic Acids Res*. 2017 Jan 9;45(1):271-287.

25. Lin YT, Chien KY, Wu CC, Chang WY, Chu LJ, Chen MC, Yeh CT, Yu JS. Super-SILAC mix coupled with SIM/AIMS assays for targeted verification of phosphopeptides discovered in a large-scale phosphoproteome analysis of hepatocellular carcinoma. *J Proteomics*. 2017 Mar 22;157:40-51.
26. Lin YH, Zhen YY, Chien KY, Lee IC, Lin WC, Chen MY, Pai LM. LIMCH1 regulates nonmuscle myosin-II activity and suppresses cell migration. *Mol Biol Cell*. 2017 Apr 15;28(8):1054-1065.
27. Bian XL, Chen HZ, Yang PB, Li YP, Zhang FN, Zhang JY, Wang WJ, Zhao WX, Zhang S, Chen QT, Zheng Y, Sun XY, Wang XM, Chien KY, Wu Q. Nur77 suppresses hepatocellular carcinoma via switching glucose metabolism toward gluconeogenesis through attenuating phosphoenolpyruvate carboxykinase sumoylation. *Nat Commun*. 2017 Feb 27;8:14420.
28. Hsieh YJ, Chien KY, Yang IF, Lee IN, Wu CC, Huang TY, Yu JS. Oxidation of protein-bound methionine in Photofrin-photodynamic therapy-treated human tumor cells explored by methionine-containing peptide enrichment and quantitative proteomics approach. *Sci Rep*. 2017 May 2;7(1):1370.
29. Hsiao YC, Chi LM, Chien KY, Chiang WF, Chen SF, Chuang YN, Lin SY, Wu CC, Chang YT, Chu LJ, Chen YT, Chia SL, Chien CY, Chang KP, Chang YS, Yu JS. Development of a Multiplexed Assay for Oral Cancer Candidate Biomarkers Using Peptide Immunoaffinity Enrichment and Targeted Mass Spectrometry. *Mol Cell Proteomics*. 2017 Oct;16(10):1829-1849.
30. Chen TW, Gan RC, Fang YK, Chien KY, Liao WC, Chen CC, Wu TH, Chang IY, Yang C, Huang PJ, Yeh YM, Chiu CH, Huang TW, Tang P. FunctionAnnotator, a versatile and efficient web tool for non-model organism annotation. *Sci Rep*. 2017 Sep 5;7(1):10430.
31. Tsai HJ, Chien KY, Liao HR, Shih MS, Lin YC, Chang YW, Cheng JC, Tseng CP. Functional links between Disabled-2 Ser723 phosphorylation and thrombin signaling in human platelets. *J Thromb Haemost*. 2017 Oct;15(10):2029-2044.

## C. Research Support

### Ongoing Research Support

### Completed Research Support (2009-2013)

99-2320-B-182-011-MY2 08/01/10-07/31/12  
 Development of highly sensitive phosphopeptide enrichment systems for quantitative phosphoproteomics  
 The goal of this study is to develop highly sensitive phosphopeptide enrichment systems for quantitative phosphoproteomics.  
 Role: PI

CMRPD190061 01/01/10-12/31/10  
 Stable isotope-coded mass spectrometry for the quantification of protein methionine oxidation  
 The goal of this study is to develop methods for enrichment of methionine-containing peptides and quantification of the status of methionine oxidation.  
 Role: PI

101-2320-B-182-012 08/01/12-07/31/13  
 Investigation of the downstream regulation mechanism of beta-interferon using a high coverage quantitative proteomic workflow  
 The goal of this study is to develop in-depth proteome analysis methods for studying the regulation mechanism of beta-interferon signaling pathway.  
 Role: PI