長庚大學分子醫學研究中心

Chang Gung Molecular Medicine Research Center

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Professional Summary

My expertise is LC-MS (liquid chromatography and mass spectrometry) and my previous study was focused on protein post-translational modification on procaspase-3 (methionine oxidation, more specifically). My primary research topic in MMRC at Chang Gung University is to develop quantitative metabolomics profiling platform and we adapted the labeling protocol from Professor Liang Li at University of Alberta in Canada. The first part of amine/phenol containing metabolite analysis is well established, and the other three functional group, acid, alcohol and aldehyde are undergoing. The whole picture of metabolite pathway will be more clear when the four platforms were integrated. Meanwhile, I also set up several experimental methods for small molecule quantitation in LC-MS system such as drugs and nucleotides, etc., which help colleagues to complete their study. Now I am doing my effort in metabolite biomarker discovery of acute kidney injury after cardiac surgery patients and oral squamous cancer carcinoma patients. I hope we can find useful metabolite biomarkers for early detection.

Education and Experiences

Visiting scientist

2017, Jul Professor Liang Li's Lab, Department of Chemistry, University of Alberta, Canada

2015, Jan Professor Liang Li's Lab, Department of Chemistry, University of Alberta, Canada.

Post-doctoral fellow

2014- 2018 Metabolomics lab, Molecular Medicine Research Center, Chang Gung University, Taiwan

2010- 2014 Proteomics core lab, Molecular Medicine Research Center, Chang Gung University, Taiwan

PhD

2003- 2010 College of Life Science, National Tsing Hwa University, Taiwan

Research Assistant

2001- 2003 Graduate Institute of Basic Medical Sciences, Chang Gung University, Taiwan

Master

1999- 2001 Graduate Institute of Basic Medical Sciences, Change Gung University, Taiwan

Bachelor

1995- 1999 Department of Biological Sciences, National Sun Yat-Sen University, Taiwan

Publication (ORCID: https://orcid.org/0000-0003-3853-4342)

1. **Hsieh YJ**, Wu CC, Chang CJ, Yu JS. Subcellular Localization of Photofrin Determines the Death Phenotype of Human Epidermoid Carcinoma A431 Cells Triggered by Photodynamic Therapy: When Plasma Membranes Are the Main Targets. ***J Cell Physiol*.** 2003, Mar; 194(3): 363-375. (IF 3.923)
2. Tsai IC, **Hsieh YJ**, Lyu PC, Yu JS. Anti-Photophopeptide Antibody, P-STM as a Novel Tool for Detecting Mitotic Phosphoproteins: Identification of Lamins A and C as Two Major Targets. ***J Cell Biochem*.** 2005 April 1; 94(5): 967-981. (IF 2.959)
3. Lu TJ, Lai WY, Huang CY, Hsieh WJ, Yu JS, **Hsieh YJ**, Chang WT, Leu TH, Chang WC, Chuang WJ, Tang MJ, Chen TY, Lu TL, Lai MD. Inhibition of cell migration by autophosphorylated mammalian sterile 20-like kinase 3 (MST3) involves paxillin and protein tyrosine phosphatase (PTP) - PEST. ***J Biol Chem*.** 2006 Dec 15; 281(50): 38405-17. (IF 4.01)
4. Hsu RM, Tsai MH, **Hsieh YJ**, Lyu PC, Yu JS. Identification of MYO18A as a Novel Interacting Partner of the PAK2/_PIX/GIT1 Complex and Its Potential Functionin Modulating Epithelial Cell Migration. ***Mol Biol Cell.*** 2010, Jan 15; 21(2): 287–301. (IF 4.604)
5. **Hsieh YJ**[#], Yu JS, Lyu PC. Characterization of Photodynamic Therapy Responses Elicited in A431 Cells Containing Intracellular Organelle-Localized Photofrin. ***Journal of Cell Biochem.*** 2010 Nov 1; 111(4): 821-33. (IF 2.959)
6. **Hsieh YJ**[#], Chien KY, Lin SY, Sabu S, Hsu RM, Chi LM, Lyu PC, Yu JS. Photofrin binds to procaspsae-3 and mediates photodynamic treatment-triggered methionine oxidation and inactivation of procaspase-3. ***Cell Death Dis*.** 2012 Jul 12; 3: e347. (IF 5.638)
7. 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(1): 18. (IF 1.776)
8. 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 nodal metastasis and poorer prognosis in oral cavity squamous cell carcinomas. ***Cancer.*** 2013 Nov 15; 119(22): 4003-11. (IF 5.201)
9. Wang HJ, **Hsieh YJ**, Cheng WC, Lin CP, Lin YS, Yang SF, Chen CC, Izumiya Y, Yu JS, Kung HJ, Wang WC. JMJD5 regulates PKM2 nuclear translocation and reprograms HIF-1α-mediated glucose metabolism. ***Proc Natl Acad Sci U S A.*** 2014 Jan 7; 111(1): 279-84. (IF 9.504)
10. Hsu RM[#], **Hsieh YJ**[#], Yang TH, Chiang YC, Kan CY, Lin YT, Chen JT, Yu JS. Binding of the extreme carboxyl-terminus of PAK-interacting exchange factor β (β-PIX) to myosin 18A (MYO18A) is required for epithelial cell migration. ***Biochim Biophys Acta.*** 2014 Nov; 1843(11): 2513-27. (IF 5.297) ([#]equal contribution first author)
11. Wu CP, **Hsieh YJ**, Hsiao SH, Su CY, Li YQ, Huang YH, Huang CW, Hsieh CH, Yu JS, Wu YS. Human ATP-Binding Cassette Transporter ABCG2 Confers Resistance to CUDC-907, a Dual Inhibitor of Histone Deacetylase and Phosphatidylinositol 3-Kinase. ***Mol Pharm***. 2016 Mar 7; 13(3): 784-94. (IF 4.556)

12. **Hsieh YJ**[#], Chien KY[#], Yang IF, Lee IN, Wu CC, Huang TY and 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: 1370. (IF 4.122)
13. Wu CP, **Hsieh YJ**, Murakami M, Vahedi S, Hsiao SH, Yeh N, Chou AW, Li YQ, Wu YS, Yu JS, Ambudkar. SV3.Human ATP-binding cassette transporters ABCB1 and ABCG2 confer resistance to histone deacetylase 6 inhibitor ricolinostat (ACY-1215) in cancer cell lines. ***Biochem Pharmacol***. 2018 Sep;155:316-325. (IF 4.235)
14. Lin WC, Chakraborty A, Huang SC, Wang PY, **Hsieh YJ**, Chien KY, Lee YH, Chang CC, Tang HY, Lin YT, Tung CS, Luo JD, Chen TW, Lin TY, Cheng ML, Chen YT, Yeh CT, Liu JL, Sung LY, Shiao MS, Yu JS, Chang YS, Pai LM. Histidine-Dependent Protein Methylation Is Required for Compartmentalization of CTP Synthase. ***Cell Rep.*** 2018 Sep 4; 24(10):2733-2745.e7. (IF 8.032)
15. Lee CC[#], **Hsieh YJ**[#], Chen SW, Fu SH, Hsu CW, Wu CC, Han W, Li Y, Huan T, Chang YC, Yu JS, Li L, Chang CH, Chen YT. Bretschneider solution-induced alterations in the urine metabolome in cardiac surgery patients. ***Sci Rep.*** 2018 Dec 11**,** 8:17774 | DOI:10.1038/s41598-018-35631-w. ([#]equal contribution first author) (IF 4.122) (2018)
16. Hsu CW, Chen YT, **Hsieh YJ**, Chang KP, Hsueh PC, Chen TW, Yu JS, Chang YS, Li L, Wu CC. Integrated analyses utilizing metabolomics and transcriptomics reveal perturbation of the polyamine pathway in oral cavity squamous cell carcinoma. ***Anal chim acta.*** 2019 Mar 7, 1050:113-122. (IF 5.123)
17. Chen YT, Huang HC, **Hsieh YJ**, Fu SH, Li L, Chen CL, Chu LJ, Yu JS. Targeting amine- and phenol-containing metabolites in urine by dansylation isotope labeling and liquid chromatography mass spectrometry for evaluation of bladder cancer biomarkers. ***J. Food Drug Anal.*** 2019 Jan 7, 2 7: 460-474. (IF 4.176)
18. **Hsieh YJ**, Chien KY, Chang JM, Chen YT, Yu JS. Development of a quantitative metabolomics profiling method for low concentration metabolite samples. Manuscript in preparation
19. **Hsieh YJ**, Chien KY, Chang JM, Chen YT, Yu JS. Development of a quantitative metabolomics profiling method for low concentration metabolite samples- online dilution. Manuscript in preparation

Awards

1. 2004.04 **Outstanding Students Conference Travel Grant of** Foundation for the advancement outstanding scholarship.
2. 2010.01. **Excellent poster award** of The Chinese Society of Cell and Molecular Biology
3. 2012.12. **American Society for Cell Biology (ASCB)Biotech Travel Award**
4. 2013.11. **Excellent oral presentation award** of The Taiwan Society for Biochemistry and Molecular Biology.
5. 2015.2.1-2.13 Short term visit at University of Alberta for Metabolomics training.
6. 2015.09. **The 14th Human Proteome Organization World Congress (HUPO 2015) Travel Award.**
7. 2017.7.9-7.22 Short term visit at University of Alberta for Metabolomics training.