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學經歷

Education:

- 2002/9-2009/2 博士，國防醫學院 生命科學研究所
Ph.D., Graduate Institute of Life Sciences, National Defense Medical Center, Taiwan.
- 1999/9-2001/7 碩士，陽明大學 公共衛生研究所
M.S., Dept. of Public Health, National Yang-Ming University, Taiwan.
- 1995/9-1999/6 學士，長庚大學 醫事技術學系
B.S., Dept. of Medical Biotechnology and Laboratory Science, Chang Gung University, Taiwan.

Research Experience:

- 2016/08~present Assistant Professor, Dept. of Microbiology & Immunology, Chang Gung University, Taiwan.
- 2014/3~2016/7 Assistant Research Fellow, Molecular Medicine Research Center, Chang Gung University, Taiwan.
- 2010/2~2014/1 Postdoctoral Fellow, Immunology Research Center, National Health Research Institutes, Taiwan.
- 2009/2~2009/12 Postdoctoral Fellow, Institute of Molecular Biology, Academia Sinica, Taiwan.
- 2001/7~2002/8 Research Assistant, Institute of Molecular Biology, Academia Sinica, Taiwan.

研究方向

1. 口腔癌癌化機制探討與開發癌症標靶藥物治療策略

口腔癌是指發生在口腔各個部位的惡性腫瘤，好發於45歲以上的男性，嚼食檳榔、吸菸、喝酒、蛀牙與不良的口腔衛生習慣，都是可能的危險子。口腔癌的治療方式以外科手術切除和放射線治療為主並搭配化學治療。病患若能早期發現早期治療，其五年存活率很好，但多數口腔癌病患診斷時即為晚期惡性度高的腫瘤型態，而癌症的復發與轉移也是口腔癌致死率高的主要原因。我們實驗室關注於口腔癌的癌化機轉研究，實驗室建立了人類腫瘤細胞異體移植動物模式，研究口腔癌病患的病理及基因多樣性，並分析癌症相關訊號路徑的失調與腫瘤細胞對基因標的藥物的感受性。我們研究發現在口腔癌的腫瘤組織中有許多的訊號路徑促成癌細胞增生與轉移，其中包含表皮生長因子受器路徑與絲裂原活化蛋白激酶訊號的過度激活，蛋白質的磷酸化與去磷酸化作用參與口腔癌細胞內重要的訊號傳遞，並且這個過程主要透過激酶與去磷酸酶之間的交互調節作用。實驗室目前利用整合性之基因體學、分子生物學實驗與動物模式實驗，研究激酶與去磷酸酶的功能、調節與受質交互作用蛋白在口腔癌癌化過程中所扮演的角色與機制，並以癌症病患的異種移植小鼠腫瘤模式，鑑

定這些新穎的基因標的藥物在癌症標靶治療的策略，我們的研究將有助於臨床癌症治療。

2. 雙特異性去磷酸酶對免疫細胞功能的調節機轉

免疫細胞數量恆定與免疫細胞的活化，對於抵抗微生物感染的免疫反應與免疫失調的相關疾病都扮演重要的角色。T細胞則是主導後天抗原專一性的免疫反應，T細胞的活化與失衡影響很多疾病的發生與進程包括感染性肺炎、癌症與自體免疫疾病等等。雙特異性去磷酸酶家族蛋白，對其特異性受質蛋白進行去磷酸化作用，而調節該蛋白的功能與訊號傳遞，我們過去已發表數個雙特異性去磷酸酶在先天免疫、後天免疫與發炎性疾病中的研究。目前實驗室以基因改造老鼠與細胞分子生物學等實驗平台，研究新穎的免疫調節因子與雙特異性去磷酸酶對於免疫細胞之發育、分化、活化及死亡的影響，並探討雙特異性去磷酸酶在免疫相關疾病的角色與致病機轉。

感染性肺炎的免疫調節因子鑑定與功能性探討，肺炎是指肺部實質出現發炎的現象，其致病原以感染細菌或病毒為主，偶有其他微生物的感染而引起。肺炎常見的症狀有咳嗽、胸痛、發熱與呼吸困難，約有百分之四十的肺炎病人會合併出現肋膜腔積液，肋膜腔積液的產生會大幅增加肺炎病人的死亡率，抗生素治療或搭配胸管引流是目前臨床上治療的選擇。我們過去已利用蛋白質體學技術，系統性的建立肺炎病人肋膜腔積液的蛋白質體資料庫，並從其中鑑定出多個參與免疫調節機制的新穎蛋白標誌，我們評估這些新穎的蛋白標誌在臨床應用於肺炎病人分期、治療與預後的成效。而肺炎病人肋膜腔積液中存在著大量的免疫細胞，其中以嗜中性球為主，我們以基因體學技術，分析免疫細胞的轉錄體變化，進一步以細胞分子生物學等實驗平台探討免疫調節基因在細菌感染下過度活化的致病機轉。

著作

2009

1. **Yang CY**, Lin NH, Lee JM, Huang CY, Min HJ, Yen JJ, Liao NS, Yang-Yen HF. (2009) Promoter Knock-In Mutations Reveal a Role of Mcl-1 in Thymocyte-Positive Selection and Tissue or Cell Lineage-Specific Regulation of Mcl-1 Expression. *Journal of Immunology* 182:2959 -2968. (IF=5.646, 18/128 in IMMUNOLOGY)
2. Wu PS, **Yang CY**, Yen JJ, Chou CH, Chen SH, Wang CK, Lai YG, Liao NS, Yang-Yen HF. (2009) Critical Roles of Translationally Controlled Tumor Protein in the Homeostasis and TCR-Mediated Proliferation of Peripheral T Cells. *Journal of Immunology* 183: 2373 -2381. (IF=5.646, 18/128 in IMMUNOLOGY)

2011

3. Weng SY, **Yang CY**, Li CC, Sun TP, Tung SY, Yen JJ, Tsai TF, Chen CM, Chen SH, Hsiao M, Huang PH, and Yang-Yen HF. (2011) Synergism between p53 and Mcl-1 in protecting from hepatic injury, fibrosis and cancer. *Journal of Hepatology* 54: 685-694. (IF=9.264, 4/74 in GASTROENTEROLOGY & HEPATOLOGY)
4. Chuang HC, Lan JL*, Chen DY*, **Yang CY***, Chen YM, Li JP, Huang CY, Liu PE, Wang X, Tan TH. (2011) The kinase GLK controls autoimmunity and NF- κ B signaling by activating the kinase PKC- θ in T cells. *Nature Immunology* 12:1113-1118. (*These authors contributed equally to this study) (IF=26.008, 3/144 in IMMUNOLOGY)

2012

5. Wang X, Li JP, Kuo HK, Chiu LL, Dement GA, Lan JL, Chen DY, **Yang CY**, Hu H, Tan TH. (2012) Downregulation of B-cell receptor signaling by hematopoietic progenitor kinase 1 (HPK1)-mediated

phosphorylation and ubiquitination of the activated BLNK. *Journal of Biological Chemistry* 287:11037-11048. (IF=4.651, 62/290 in BIOCHEMISTRY & MOLECULAR BIOLOGY)

6. Chen KR, Chang CH, Huang CY, Lin CY, Lin WY, Lo YC, **Yang CY**, Hsing EW, Chen LF, Shih SR, Shiau AL, Lei HY, Tan TH, Ling P. (2012) TBK1-associated protein in endolysosomes (TAPE)/CC2D1A is a key regulator linking RIG-I-like receptors to antiviral immunity. *Journal of Biological Chemistry* 287:32216-32221. (IF=4.651, 62/290 in BIOCHEMISTRY & MOLECULAR BIOLOGY)

2014

7. **Yang CY**, Li JP, Chiu LL, Lan JL, Chen DY, Chuang HC, Huang CY, Tan TH. (2014) Dual-specificity phosphatase 14 (DUSP14/MKP6) negatively regulates T-cell receptor signaling by inhibiting TAB1 activation. *Journal of Immunology* 192:1547-1557. (IF=4.922, 26/148 in Immunology) (This paper was highlighted in Journal of Immunology "In This Issue" section.)
8. Li JP, **Yang CY**, Chuang HC, Lan JL, Chen DY, Chen YM, Wang X, Chen A, Belmont J, Tan TH. (2014) The phosphatase JKAP/DUSP22 inhibits T-cell receptor signaling and autoimmunity by inactivating Lck. *Nature Communications* 5, 3618. DOI: 10.1038/ncomms4618 (IF=11.470, 3/55 in MULTIDISCIPLINARY SCIENCES)
9. Chuang HC, Sheu W, Lin YT, Tsai CY, **Yang CY**, Cheng YJ, Huang PY, Li JP, Chiu LL, Wang X, Xie M, Schneider M, Tan TH. (2014) HGK/MAP4K4 deficiency induces TRAF2 stabilization and Th17 differentiation leading to insulin resistance. *Nature Communications* 5, 4602. DOI: 10.1038/ncomms5602 (IF=11.470, 3/55 in MULTIDISCIPLINARY SCIENCES)

2016

10. **Yang CY**, Chiu LL, Tan TH. (2016) TRAF2-mediated Lys63-linked ubiquitination of DUSP14/MKP6 is essential for its phosphatase activity. *Cellular Signalling*, 28, 145-151. (IF=4.191, 65/184 in CELL BIOLOGY)

2017

11. Wu KA, Wu CC, Chen CD, Chu CM, Shih LJ, Liu YC, Wang CL, Lin HH*, **Yang CY***. (2017) Proteome profiling reveals novel biomarkers to identify complicated parapneumonic effusions. *Scientific Reports* 7(4026):1-10. (*corresponding author) (IF=4.259, 10/64 in MULTIDISCIPLINARY SCIENCES)
12. Chen TW, Lee CC, Liu H, Wu CS, Pickering CR, Huang PJ, Wang J, Chang YF, Yeh YM, Chen CD, Li HP, Luo JD, Tan BC, Chan EH, Hsueh C, Chu LJ, Chen YT, Zhang B, **Yang CY**, Wu CC, Hsu CW, See LC, Tang P, Yu JS, Liao WC, Chiang KW, Rodriguez H, Myers JN, Chang KP, Chang YS. (2017) APOBEC3A is an oral cancer prognostic biomarker in Taiwanese carriers of an APOBEC deletion polymorphism. *Nature Communications* 8(1):465. (IF=12.124, 3/64 in MULTIDISCIPLINARY SCIENCES)

2018

13. Wu SM, Liu H, Huang PJ, Chang IY, Lee CC, **Yang CY**, Tsai WS, Tan BC. (2018) circIncRNA.net: an integrated web-based resource for mapping functional networks of long or circular forms of noncoding RNAs. *GigaScience*. 7(1):1-10. (IF=6.871, 6/64 in MULTIDISCIPLINARY SCIENCES)
14. **Yang CY**, Yeh YM, Yu HF, Chin CY, Hsu CW, Liu H, Huang PJ, Hu SN, Liao CT, Chang KP, Chang YL. (2018). Oral microbiota community dynamics associated with Oral Squamous Cell Carcinoma staging. *Frontiers in Microbiology*, 9:1-15. (IF=4.076, 26/125 in Microbiology).
15. Huang PJ, Lee CC, Chiu LY, Huang KY, YM Yeh, **Yang CY**, Chiu CH, Tang P. (2018). VARReporter:

variant reporter for cancer research of massive parallel sequencing. *BMC Genomics*, 19(suppl2):86. (IF=3.729, 35/160 in Biotechnology & Applied Microbiology).

16. **Yang CY**, Chiu LL, Chang CC, Chuang HC, Tan TH. (2018) Induction of DUSP14 ubiquitination by PRMT5-mediated arginine methylation. *FASEB Journal*, doi: 10.1096/fj.201800244RR (IF=5.595, 42/293 in Biochemistry and Molecular biology).

2019

17. Wang LJ, **Yang CY**, Chou WJ, Lee MJ, Chou MC, Kuo HC, Yeh YM, Lee SY, Huang LH, Li SC. (2019) Gut microbiota and dietary patterns in children with attention-deficit/hyperactivity disorder. *European Child & Adolescent Psychiatry*, doi.org/10.1007/s00787-019-01352-2 (IF=3.553, 9/24 in PEDIATRICS).
18. Lin HJ, Jiang ZP, Lo HR, Feng CL, Chen CJ, **Yang CY**, Huang MZ, Wu HY, Chen YA, Chen Y, Chiu CH, Lai CH. (2019) Coalescence of RAGE in Lipid Rafts in Response to Cytolethal Distending Toxin-Induced Inflammation. *Front Immunol*. doi: 10.3389/fimmu.2019.00109.
19. Wu KA, Wu CC, Liu YC, Hsueh PC, Chin CY, Wang CL, Chu CM, Shih LJ, **Yang CY***. (2019) Combined serum biomarkers in the noninvasive diagnosis of complicated parapneumonic effusions and empyema. *BMC Pulmonary Medicine* 19(1):108. doi: 10.1186/s12890-019-0877-8 (IF=2.721, 28/60 in RESPIRATORY SYSTEM).

2020

20. Wu SM, Dr. Tsai WS, Chiang SF, Lai YH, Ma CP, Wang JH, Ms. Lin JR, Lu PS, **Yang CY**, Liu H, Tan BC. (2020). Comprehensive transcriptome profiling of Taiwanese colorectal cancer implicates an ethnic basis for pathogenesis. *Scientific Reports*. 10:4526 (IF=4.259, 10/64 in MULTIDISCIPLINARY SCIENCES)
21. **Yang CY**, Liu CR, Chang YF, OuYang CN, Hsieh CH, Huang YL, Wang CI, Jan FW, Wang WL, Tsai TL, Liu H, Tseng CP, Chang YS, Wu CC, Chang KP. (2020) Cotargeting CHK1 and PI3K Synergistically Suppresses Tumor Growth of Oral Cavity Squamous Cell Carcinoma in Patient-Derived Xenografts. *Cancers*, 12(7):1726 (IF= 6.126, 37/244 in Oncology)
22. Chen YW*, Huang MZ, Chen CL, Kuo CY, **Yang CY***, Chuan NC, Chen YY, Hsieh CM, Wu HY, Kuo ML, Chiu CH, Lai CH. (2020) PM 2.5 impairs macrophage functions to exacerbate pneumococcus-induced pulmonary pathogenesis. *Particle and Fibre Toxicology*, 17(1):37 (First author, *These authors contributed equally to this study) (IF= 7.546, 3/92 in Toxicology)
23. **Yang CY***, Chuang HC*, Tsai CY, Xiao YZ, Yang JY, Huang RH, Shih YC, Tan TH. (2020) DUSP11 Attenuates Lipopolysaccharide-Induced Macrophage Activation by Targeting TAK1. *Journal of Immunology*, 205(6): 1644–1652 (First author, *These authors contributed equally to this study) (IF= 4.886, 44/158 in Immunology)
24. Hsueh PC, Wu KA, **Yang CY**, Hsu CW, Wang CL, Hung CM, Chen YT, Yu JS, Wu CC. (2020) Metabolomic profiling of parapneumonic effusion reveals a regulatory role of dipeptides in interleukin-8 production in neutrophil-like cells. *Analytica Chimica Acta*. 1128: 238-250 (IF= 5.977, 10/86 in Chemistry, Analytical)
25. Lin CY, Lin CY, Yeh YM, Yang LY, Lee YS, Chao A, Chin CY, Chao AS* & **Yang CY***. (2020) Severe preeclampsia is associated with a higher relative abundance of *Prevotella bivia* in the vaginal microbiota. *Scientific Reports*. 18249 (*corresponding author) (IF=3.998, 17/71 in Multidisciplinary sciences)
26. Chen YW, Li SW, Lin CD, Huang MZ, Lin HJ, Chin CY, Lai YR, Chiu CH, **Yang CY*** and Lai CH*.

(2020) Fine Particulate Matter Exposure Alters Pulmonary Microbiota Composition and Aggravates Pneumococcus-Induced Lung Pathogenesis. *Frontiers in cell and developmental biology*.

8:570484 (*corresponding author) (IF=5.186, 54/195 in Cell Biology)

2021

27. **Yang CY**, Kuo YH, Chen M, Wang CL, Shih LJ, Liu YC, Hsueh PC, Lai YH, Chu CM, Wu CC, Wu KA. Pleural cytokines MIF and MIP-3 α as novel biomarkers for complicated parapneumonic effusions and empyema. *Scientific Reports*, 2021 Jan: 11: 1763, (**First author**) (IF= 4.379, 19/128 in Multidisciplinary sciences).
28. Tseng MH, Fan WJ, Liu H, **Yang CY**, Ding JJ, Lee HJ, Huang SM, Lin SH, Huang JL. Complement factor I mutation may contribute to development of thrombotic microangiopathy in lupus nephritis. *Frontiers in Medicine*, 2021 Feb: 7: 621609 (IF=5.091, 44/315 in Medicine, general & internal)
29. **Yang CY**, Li SW, Chih CY, CW Hsu, Lee CC, Yeh YM, Wu KA. Association of exacerbation phenotype with the sputum microbiome in chronic obstructive pulmonary disease patients during the clinically stable state. *Journal of Translational Medicine*, 2021 Mar: 19:121, (**First author**) (IF= 5.531, 30/188 in MEDICINE, RESEARCH & EXPERIMENTAL).

2022

30. Wang LJ, **Yang CY**, Kuo HC, Chou WJ, Tsai CS, Lee SY. Effect of Bifidobacterium bifidum on Clinical Characteristics and Gut Microbiota in Attention-Deficit/Hyperactivity Disorder. *Journal of Personalized Medicine*, 2022, 12:227, (IF= 4.945, 15/107 in HEALTH CARE SCIENCES & SERVICES)
31. Wang LJ, Li SC, Li SW, Kuo HC, Lee SY, Huang LH, Chin CY, **Yang CY***. Gut microbiota and plasma cytokine levels in patients with attention-deficit/hyperactivity disorder. *Translational Psychiatry*, 2022, 12:76, (*corresponding author) (IF=6.222, 24/156 in PSYCHIATRY)
32. Chen YT, Hsu HC, Lee YS, Liu H, Tan CM, Chin CY, Chang YF, **Yang CY***. Longitudinal High-Throughput Sequencing of the T-Cell Receptor Repertoire Reveals Dynamic Change and Prognostic Significance of Peripheral Blood TCR Diversity in Metastatic Colorectal Cancer During Chemotherapy. *Frontiers in Immunology*, 2022, 12:743448, (*corresponding author) (IF=7.561, 24/162 in Immunology)
33. Yen WC, Chang IYF, Chang KP, Ouyang CN, Liu CR, Tsai TL, Zhang YC, Wang CI, Wang YH, Yu AL, Liu H, Wu CC, Chang YS, Yu JS, **Yang CY***. Genomic and Molecular Signatures of Successful Patient-Derived Xenografts for Oral Cavity Squamous Cell Carcinoma. *Frontiers in Oncology*, 2022, 12:792297. (*corresponding author) (IF=6.244, 62/242 in Oncology)