



Liu, Hao-Ping DVM, PhD

Associate Professor

Professional Specialties: Oncology, Cancer Cell Biology, Functional Proteomics

Major Courses Taught:

- (Undergraduate): Medical Biochemistry & Lab Practicum, Veterinary Virology & Lab Practicum, Introduction to Tumor Cell Biology
- (Graduate): Advanced Biochemistry, Basic Oncology, Molecular Oncology

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Educational Background

PhD, Microbiology and Immunology, National Yang Ming University, Taipei, Taiwan

MSc, Basic Medical Science, Chang Gung University, Taoyuan, Taiwan

DVM, Veterinary Medicine, National Chung Hsing University, Taichung, Taiwan

Professional Career

- **DVM**, National License of Doctor Veterinary Medicine, Taiwan
- **Visiting Research Scholar**, Department of Microbiology, Icahn School of Medicine at Mount Sinai, New York, USA, 2002
- **Postdoctoral Fellow**, Graduate Institute of Basic Medical Science, College of Medicine, Chang Gung University, Taoyuan, Taiwan, 2006–2009
- **Research Associate**, Molecular Medicine Research Center, Chang Gung University, Taoyuan, Taiwan, 2009–2014/01
- **Assistant Professor**, Department of Veterinary Medicine, College of Veterinary Medicine, National Chung Hsing University, Taichung, Taiwan, 2014/02–2019/07
- **Division Director of Teaching & Promotion**, Biotechnology & Development Center, National Chung Hsing University, Taichung, Taiwan, 2023/08–

Honors

- Award for Distinguished Dissertation in Biomedical Science, Tian-De Lee Medical and Pharm. Foundation, Taiwan, 2008
- Poster Award, TPS International Proteomics Conference and 5th AOHUPO MPI Workshop, Taipei, Taiwan, 2009
- The Pride of National Chung Hsing University, Taiwan, 2016
- Distinguished Teaching Award, National Chung Hsing University, Taiwan, 2017
- Elite Veterinary Award for Outstanding Teaching and Research, Dr. Robert C. T. Lee Foundation, Taiwan, 2017
- Distinguished Faculty, National Chung Hsing University, Taiwan, 2018–2020
- Distinguished Faculty, National Chung Hsing University, Taiwan, 2020–2022

Research Interests

- Molecular mechanisms underlying cancer progression
- Interactions between tumor, virus, and tumor microenvironment
- Discovery and application of disease biomarkers

Selected Publications

1. Y-H Hsieh[#], **H-P Liu**[#] (#equal contribution), S-J Lo, Y-S Chang^{*}. Tumor regression by expression of high physiological levels of EBV latent membrane protein 1. *Cancer Biology & Therapy*, 2006 Mar, 5(3): 310–317. [SCI]
2. **H-P Liu**, C-C Wu, Y-S Chang^{*}. PRA1 promotes the intracellular trafficking and NF- κ B signaling of EBV latent membrane protein 1. *EMBO Journal*, 2006 Sep, 25(17): 4120–4130. [SCI]
3. L-C Chen, **H-P Liu**, H-P Li, C Hsueh, J-S Yu, C-L Liang, Y-S Chang^{*}. Thymidine phosphorylase mRNA stability and protein levels are increased through ERK-mediated cytoplasmic accumulation of hnRNP K in nasopharyngeal carcinoma cells. *Oncogene*, 2009 Apr, 28(17): 1904–1915. [SCI]
4. **H-P Liu**, P-J Chung^{*}, C-L Liang, Y-S Chang^{*}. The MYND domain-containing protein BRAM1 inhibits lymphotoxin beta receptor-

mediated signaling through affecting receptor oligomerization. *Cellular Signaling*, 2011 Jan, 23(1): 80–88. [SCI]

5. **H-P Liu**, C-C Wu, H-Y Kao, Y-C Huang, Y Liang, C-C Chen, J-S Yu, Y-S Chang*. Proteome-wide dysregulation by PRA1 depletion delineates a role of PRA1 in lipid transport and cell migration. *Molecular & Cellular Proteomics*, 2011 Mar, 10(3): M900641MCP200. [SCI]
6. **H-P Liu**, C-C Chen, C-C Wu, Y-C Huang, S-C Liu, Y Liang, K-P Chang, Y-S Chang*. Epstein–Barr virus-encoded LMP1 interacts with FGD4 to activate Cdc42 and thereby promote migration of nasopharyngeal carcinoma cells. *PLoS Pathogens*, 2012 May, 8(5): e1002690. [SCI]
7. C-C Chen#, **H-P Liu**#, M Chao, Y Liang, N-M Tsang, H-Y Huang, C-C Wu, Y-S Chang*. NF-κB-mediated transcriptional upregulation of TNFAIP2 by the Epstein–Barr virus oncoprotein, LMP1, promotes cell motility in nasopharyngeal carcinoma. *Oncogene*, 2014 Jul, 33(28): 3648–59. [SCI]
8. C-C Wu, H-W Chu, C-W Hsu, K-P Chang*, **H-P Liu***. Saliva proteome profiling reveals potential salivary biomarkers for detection of oral cavity squamous cell carcinoma. *Proteomics*, 2015 Oct, 15(19): 3394–3404. [SCI] ("Featured Articles" in the issue)
9. S-W Huang, **H-P Liu**, J-K Chen, Y-W Shien, M-L Wong, C-Y Wang*. Dual ATPase and GTPase activity of the replication-associated protein (Rep) of beak feather disease virus. *Virus Research*, 2016 Feb, 213: 149–161. [SCI]
10. Y-J Lee, M-Y Lee, A Ruan, C-K Chen, **H-P Liu**, C-J Wang, W-R Chao*, C-P Han*. Multipoint Kras oncogene mutations potentially indicate mucinous carcinoma on the entire spectrum of mucinous ovarian neoplasms. *Oncotarget*, 2016 Dec, 7(50): 82097–82103. [SCI]
11. S Kake, S Tsuj, S Enjoji, S Hanasaki, H Hayase, R Yabe, Y Tanaka, T Nakagawa, **H-P Liu**, S-C Chang, T Usui, T Ohama*, K Sato. The role of SET/1 I2PP2A in canine mammary tumors. *Scientific Reports*, 2017 Jun, 7(1): 4279. [SCI]
12. R-L Kuo, C-J Chen, E-H Tam, C-G Huang, L-H Li, Z-H Li, P-C Su, **H-P Liu**, C-C Wu*. Interactome analysis of NS1 protein encoded by influenza A H7N9 virus reveals an inhibitory role of NS1 in host mRNA maturation. *Journal of Proteome Research*, 2018 Apr, 7(4): 1474–1484. [SCI]
13. T-H Hsu, **H-P Liu**, C-Y Chin, C Wang, W-Z Zhu, B-L Wu, Y-C Chang*. Detection, sequence analysis, and antibody prevalence of porcine deltacoronavirus in Taiwan. *Archive of Virology*, 2018 Nov, 163(11): 3113–3117. [SCI]
14. C-C Wu, S-C Chang, G-Y Zeng, H-W Chu, Y Huang, **H-P Liu***. Proteome analyses reveal positive association of COL2A1, MPO, TYMS, and IGFBP5 with canine mammary gland malignancy. *Proteomics Clinical Applications*, 2019 Jul, 13(4): e1800151. [SCI]
15. G-R Liao, Y-Y Tseng, J-Y Tseng, F-Y Lin, Y Yamada, **H-P Liu**, C-Y Kuan, W-L Hsu*. Adenosine deaminase acting on RNA 1 associates with Orf virus OV20.0 and enhances viral replication. *Journal of Virology*, 2019 Mar, 93(7). pii: e01912–18. [SCI]
16. H-W Chu, K-P Chang, C-W Hsu, I-Y Chang, **H-P Liu**, Y-T Chen, C-C Wu*. Identification of salivary biomarkers for oral cancer detection with untargeted and targeted quantitative proteomics approaches. *Molecular & Cellular Proteomics*, 2019 Sep, 18(9): 1796–1806. [SCI]
17. C-W Hsu, K-P Chang, Y Huang, **H-P Liu**, P-C Hsueh, P-W Gu, W-C Yen, C-C Wu*. Proteomic profiling of paired interstitial fluids reveals dysregulated pathways and salivary NID1 as a biomarker of oral cavity squamous cell carcinoma. *Molecular & Cellular Proteomics*, 2019 Oct, 18(10): 1939–1949. [SCI]
18. S-C Chang, SH-C Yuan, C-Y Li, H-M Chang, H-C Wang, Y-A Pan, P-C Hsueh, C-C Wu, Y Yang, **H-P Liu***. Significant association of serum autoantibodies to TYMS, HAPLN1 and IGFBP5 with early stage canine malignant mammary tumours. *Veterinary and Comparative Oncology*, 2021 Mar, 19(1): 172-182. [SCI]
19. G-R Liao, Y-Y Tseng, C-Y Tseng, Y-P Huang, C-H Tsai, **H-P Liu**, W-L Hsu*. K160 in the RNA-binding domain of the orf virus virulence factor OV20.0 is critical for its functions in counteracting host antiviral defense. *FEBS Letter*, 2021 Jun, 595(12): 1721-1733. [SCI]
20. SH-C Yuan, S-C Chang, Y Huang, **H-P Liu***. Serum level of tumor-overexpressed AGR2 is significantly associated with unfavorable prognosis of canine malignant mammary tumors. *Animals (Basel)*, 2021 Oct, 11(10): 2923. [SCI]
21. R-L Kuo, E-H Tam, C-H Woung, C-M Hung, **H-P Liu**, H M Liu, C-C Wu*. Interactome profiling of N-terminus-truncated NS1 protein of influenza A virus reveals role of 14-3-3γ in virus replication. *Pathogens*, 2022 Jun, 11(7): 733. [SCI]
22. SH-C Yuan, S-C Chang, P-Y Chou, Y Yang, **H-P Liu***. The implication of serum autoantibodies in prognosis of canine mammary tumors. *Animals (Basel)*, 2022 Sep, 12(18): 2463. [SCI]
23. P-C Hsueh, K-P Chang, **H-P Liu**, W-F Chiang, X-Y Chan, C-M Hung, LJ Chu, C-C Wu*. Development of a salivary autoantibody biomarker panel for diagnosis of oral cavity squamous cell carcinoma. *Frontiers in Oncology*, 2022 Oct, 968570. [SCI]
24. H-W Chu, K-P Chang, W-C Yen, **H-P Liu**, X-Y Chan, C-R Liu, C-M Hung, C-C Wu*. Identification of salivary autoantibodies as biomarkers of oral cancer with immunoglobulin A enrichment combined with affinity mass spectrometry. *Proteomics*, 2023 May, 23(9)e2200321. [SCI]
25. Y-C Chang#, **H-P Liu**#, H-L Chuang#, J-W Liao, P-L Kao, H-L Chan, T-H Chen, Y-C Wang. Feline mammary carcinoma-derived extracellular vesicle promotes liver metastasis via sphingosine kinase-1-mediated premetastatic niche formation. *Laboratory Animal Research*, 2023 Nov, 39 (1), 27. [SCI]
26. C-H Lin, H-MH Tam, C-Y Yang, F-C Hsieh, J-L Wang, C-C Yang, H-W Hsu, **H-P Liu***, H-Y Wu*. Evolution of the coronavirus spike protein in the full-length genome and defective viral genome under diverse selection pressures. *Journal of General Virology*, 2023 Nov, 104 (11), 001920. [SCI]

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