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RESEARCH INTERESTS

- To develop cancer therapeutics targeting the remodeling of intracellular Ca²⁺ homeostasis and cytoskeletal dynamics of cancer cells.
- To explore neuroprotective agents to ameliorate the chemotherapy-induced neurotoxic effects.
- To discover skin barrier protectants facilitating the antioxidant defense mechanism and aquaporin-based cellular water transport.

EDUCATION AND TRAINING

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|-----------------|---|
| 2004/09-2010/07 | Ph.D. in Basic Medical Sciences
National Cheng Kung University, Tainan, Taiwan |
| 2008/11-2009/10 | Visiting Scientist
Department of Physiology, Anatomy, and Genetics,
University of Oxford, Oxford, UK |
| 1999/09-2003/06 | B.S. in Pharmacy
Kaohsiung Medical University, Kaohsiung, Taiwan |

QUALIFICATIONS

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| 2003 | Professional Pharmacist License
National Professional and Technical Examination for Pharmacists, Taiwan |
| 2003 | Certificate of Chinese Herbal Medicine
Kaohsiung Medical University, Kaohsiung, Taiwan |

ACADEMIC EMPLOYMENT

- 2022/08-present **Associate Professor**
Graduate Institute of Natural Products, College of Pharmacy,
Kaohsiung Medical University, Kaohsiung, Taiwan
- 2015/02-2022/07 **Assistant Professor**
Graduate Institute of Natural Products, College of Pharmacy,
Kaohsiung Medical University, Kaohsiung, Taiwan
- 2014/08-2015/01 **Independent Research Fellow (awarded by MOST, Taiwan)**
Department of Pharmacology, College of Medicine,
National Cheng Kung University, Tainan, Taiwan
- 2013/08-2015/01 **Project Assistant Professor**
Institute of Basic Medical Sciences, College of Medicine,
National Cheng Kung University, Tainan, Taiwan
- 2010/09-2013/07 **Postdoctoral Research Fellow**
Department of Pharmacology, College of Medicine,
National Cheng Kung University, Tainan, Taiwan

ADMINISTRATIVE EXPERIENCES

- 2021/08-present **Section Director of International Affairs**
College of Pharmacy,
Kaohsiung Medical University, Kaohsiung, Taiwan
- 2019/08-2021/08 **Director of Academic Collaboration,**
Office of Global Affairs
Kaohsiung Medical University, Kaohsiung, Taiwan

HONORS & AWARDS

- 2021 **Outstanding Research Award**, Kaohsiung Medical University, Kaohsiung, Taiwan
(2021 年研究績優教師—優秀論文獎)
- 2021 **Award of Patent Approval**, Kaohsiung Medical University, Kaohsiung, Taiwan
(2021 年專利獲證優良獎)
- 2021 **Outstanding Teaching Award**, Kaohsiung Medical University, Kaohsiung, Taiwan
(109 學年度教學優良教師)
- 2020 **Outstanding Teaching Award**, Kaohsiung Medical University, Kaohsiung, Taiwan
(108 學年度教學優良教師)
- 2020 **Award of Technology Transfer**, Kaohsiung Medical University, Kaohsiung, Taiwan
(108 學年度技術轉移優良獎)
- 2019 **Outstanding Research Award**, Kaohsiung Medical University, Kaohsiung, Taiwan
(2019 年研究績優教師—優秀論文獎)

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- 2019 **Outstanding Teaching Award**, Kaohsiung Medical University, Kaohsiung, Taiwan
(107 學年度藥學院教學優良教師)
- 2019 **Outstanding Student Mentoring Award**, Kaohsiung Medical University, Kaohsiung, Taiwan (107 學年度績優導師)
- 2018 **Outstanding Teaching Award**, Kaohsiung Medical University, Kaohsiung, Taiwan
(106 學年度教學優良教師)
- 2017 **Outstanding Student Mentoring Award**, Kaohsiung Medical University, Kaohsiung, Taiwan (105 學年度績優導師)
- 2015 **Outstanding Research Award**, Kaohsiung Medical University, Kaohsiung, Taiwan
(2015 年研究績優教師—優秀論文獎)
- 2014 **Independent Research Fellowship** awarded by Ministry of Science and Technology, Taiwan (科技部延攬研究學者-助理研究員) MOST 103-2811-B-006 -025 -
- 2013 **Outstanding Research Paper Award**, Laser Medicine Education, and Research Foundation, Taiwan (2013 年雷射醫學文教基金會優秀論文獎)
- 2013 **Travel Grant** for International Conference by National Science Council, Taiwan
(國科會補助國內專家學者出席國際學術會議) NTD 69,500
- 2012 **Travel Grant** for International Conference by National Science Council, Taiwan
(國科會補助國內專家學者出席國際學術會議) NTD 51,000
- 2010 **Awarded member** of Bio-Inspired Sensing & Bio-Inspired Actuation Summer Institute at the University of Illinois at Urbana-Champaign, Champaign, IL, U.S.A., by Taiwan National Science Council and U.S. National Science Foundation Joint Program
- 2010 **Award of Outstanding Thesis** by Tien-Te Lee Biomedical Foundation, Taiwan
(第 6 屆永信李天德醫藥科技獎—傑出論文獎)
- 2007 **Graduate Students Study Abroad Scholarship** by National Science Council, Taiwan
(國科會千里馬計畫補助博士生赴國外研究) NTD 600,000

RESEARCH GRANTS & FUNDING

2022	Ministry of Science and Technology	Application of an integrated platform of cell imaging technologies and mouse models to develop novel anticancer natural therapeutics targeting cancer-specific calcium signaling network [以細胞影像平台結合動物模式開發癌細胞專一性鈣離子訊息網絡標靶之新穎天然抗癌藥物] MOST 111-2320-B-037-014 -MY3	NTD 4,650,000 (Principal Investigator) 3 years from 2022
2019	Ministry of Science and Technology	Application an integrated platform of high-content imaging system and mouse models to identify neuroprotective natural products against chemotherapy-induced neuropathy [以高通量影像系統結合動物模式平台開發緩解化學治療引發神經病變之新穎天然藥物] MOST 108-2320-B-037-012-MY3	NTD 3,250,000 (Principal Investigator) 3 years from 2019

2021	Kaohsiung Medical University	NKUST-KMU Joint Research Project: Developing Taiwan common seaweed as raw materials of natural marine cosmetics and functional evaluation of skin repairing [高科大高醫大研發暨產學合作補助計畫：以台灣常見海藻作為海洋天然美粧品原料開發與改善皮膚修護功效]	NTD 200,000 (Principal Investigator) 1 year from 2021
2020	TTH Biotech Corporation	Industry-academia collaboration project [產學合作計畫-諾麗果萃取物對於皮膚損傷之活性評估]	NTD 350,000 (Principal Investigator) 10 months from 2020
2020	Ministry of Science and Technology	The Bio-image Core [生醫光學影像核心平台] MOST 109-2740-B-006 -002 -	NTD 16,500,000 (Co-Principal Investigator) 1 year from 2020
2019	Kaohsiung Medical University	[探討內質網鈣離子感應蛋白於癌細胞功能的重要性] KMU-M108010	NTD 180,000 (Principal Investigator) 1 year from 2019
2019	Ministry of Science and Technology	The Bio-image Core [生醫光學影像核心平台] MOST 108-2319-B-006 -001 -	NTD 17,000,000 (Co-Principal Investigator) 1 year from 2019
2018	Ministry of Science and Technology	The Bio-image Core [生醫光學影像核心平台] MOST 107-2319-B-006 -001 -	NTD 14,073,000 (Co-Principal Investigator) 1 year from 2018
2018	Kaohsiung Medical University	[探討細胞移動過程中細胞骨架及內質網鈣離子感應蛋白的相互調控] KMU-M107011	NTD 180,000 (Principal Investigator) 1 year from 2018
2018	Ministry of Education	Academic Strategic Alliance: Taiwan and Oxford University: To develop novel therapeutics by targeting ion transport in cancer cells [我國與英國牛津大學合作發展學術策略聯盟-開發新穎抗癌藥物：以癌細胞獨特離子運輸機制為標的]	NTD 2,000,000 (Principal Investigator) 1 year from 2018
2018	Ministry of Science and Technology	The effect and mechanism of oxidative stress and calcium traffic on mitochondrial function and autophagy of 4beta-hydroxywithanolide-treated oral cancer cells [口腔癌細胞處理4beta-hydroxywithanolide的氧化壓力與鈣離子流動對粒線體功能與細胞自噬的影響與機制]	NTD 1,000,000 (Co-Principal Investigator) 1 year from 2018

MOST 107-2320-B-037 -016 -			
2017	Kaohsiung Medical University	[利用高內涵細胞影像技術以開發具神經保護之天然藥物] KMU-Q106009	NTD 450,000 (Principal Investigator) 1 year from 2017
2017	得陞生技醫藥股份有限公司	Industry-academia collaboration project [產學合作計畫-牛樟芝萃取物之成分分離與結構鑑定]	NTD 1,210,842 (Co-Principal Investigator) 1 year from 2017
2017	Ministry of Science and Technology	To investigate the role of N-linked glycosylated carcinoembryonic antigen-related cell adhesion molecule 6 (CEACAM6) in EGF receptor signaling and the implication in oral cancer therapy [探討癌胚抗原相關細胞黏附分子6糖基化在調控表皮生長因子接受器訊息傳遞的機制及在口腔癌治療的應用] MOST 106-2320-B-038 -007 -	NTD 935,000 (Co-Principal Investigator) 1 year from 2017
2017	Ministry of Science and Technology	To upgrade the Bio-image Core [精進生醫光學影像核心平台] MOST 106-2319-B-006 -001 -	NTD 18,100,000 (Co-Principal Investigator) 1 year from 2017
2015	Ministry of Science and Technology	To study the molecular mechanisms of calcium signal controlling cell cycle progression [研究鈣離子訊息調控細胞週期之分子機轉] MOST 104-2320-B-006 -015 -MY3	NTD 5,285,000 (Co-Principal Investigator) 3 years from 2015
2014	Ministry of Science and Technology	The impact of ER calcium sensors on cell migration and tumor invasiveness [內質網鈣離子感應蛋白對於細胞遷移及腫瘤侵襲的重要性] MOST 103-2321-B-006-018-MY3	NTD 3,540,000 (Principal Investigator) 3 years from 2014
2014	Kaohsiung Medical University	[解析癌細胞鈣離子訊息網絡之調控機制及細胞遷移功能探討] KMU-Q105008	NTD 400,000 (Principal Investigator) 1 year from 2017
2014	Ministry of Science and Technology	To set up an image-based high content screening platform to develop novel neuroprotective agents for chemotherapy [建立高通量顯微影像技術以開發新穎的神經保護劑] MOST 103-2325-B-006 -016- (1/3) MOST 104-2325-B-006 -008- (2/3) MOST 105-2325-B-006 -006- (3/3)	NTD 10,710,000 (Co-Principal Investigator) 3 years from 2014

PUBLICATIONS

(shaded = since 2018)

- *Google Scholar* (retrieved 2023/05/25): Cited = 1,647; h-index = 21; i10-index = 25.
- *Web of Science* (retrieved 2023/04/23): Cited = 1,141; h-index = 18; Cited per article = 29.26.

1. Chang YC, Lo YC, Chang HS, Lin HC, Chiu CC, **Chen YF***. (2023) An efficient cellular image-based platform for high-content screening of neuroprotective agents against chemotherapy-induced neuropathy. *NeuroToxicology*. 96:118-128. (SCI)
2. **Chen YF**, Wu HC, Chang JM, Ko HH, Lin CH, Chang HS*. (2023) Chemical investigations and cytotoxic effects of metabolites from *Antrodia camphorata* against human hepatocellular carcinoma cells. *Natural Product Research*. 37(4):560-570. (SCI)
3. Chen SR, **Chen YF**, Lin JJ, Ke TY, Lin YS, Cheng YB*. (2023) 2,6-Disubstituted Piperidine Alkaloids with Neuroprotective Activity from *Hippobroma longiflora*. *Planta Medica*. 289(3):308-315. (SCI)
4. Lee CW, Chu MC, Wu HF, Chung YJ, Hsieh TH, Chang CY, Lin YC, Lu TY, Chang CH, Chi H, Chang HS, **Chen YF**, Li CT, Lin HC*. (2023) Different synaptic mechanisms of intermittent and continuous theta-burst stimulations in a severe foot-shock induced and treatment-resistant depression in a rat model. *Experimental Neurology*. 362:114338. (SCI)
5. **Chen YF** & Shen MR*. (2022) The important role of ion transport system in cervical cancer. *International Journal of Molecular Sciences*. 23(1): 333. (SCI)
6. Yang SS, **Chen YF**, Ko HH, Wu HC, Hsieh SY, Wu MD, Cheng MJ, Chang HS*. (2022) Undescribed alkyne-geranylcylohexenetriols from the endophyte *Diaporthe caulivora* 09F0132 and their anti-melanogenic activity. *Phytochemistry*. 202:113312. (SCI)
7. Hsieh YS, **Chen YF**, Cheng YY, Liu WY, Wu YT*. (2022) Self-emulsifying phospholipid preconcentrates for the enhanced photoprotection of luteolin. *Pharmaceutics*. 14(9):1896. (SCI)
8. Ho TH, Hong SY, Yang CH, **Chen YF**, Lin HY, Wang TL*. (2022) Preparation of green emission and red emission ligand-free upconverting nanoparticles for investigation of the generation of reactive oxygen species applied to photodynamic therapy. *Journal of Alloys and Compounds*. 893:162323. (SCI)
9. Ho TH, Yang CH, Jiang ZE, Lin HY, **Chen YF**, Wang TL*. (2022) NIR-Triggered Generation of Reactive Oxygen Species and Photodynamic Therapy Based on Mesoporous Silica-Coated LiYF₄ Upconverting Nanoparticles. *International Journal of Molecular Sciences*. 6;23(15):8757. (SCI)
10. Chen YC, Su SH, Huang JC, Chao CY, Sung PJ, **Chen YF**, Ko HH*, Kuo YH*. (2022) Tyrosinase Inhibitors Derived from Chemical Constituents of *Dianella ensifolia*. *Plants (Basel)*. 11(16):2142. (SCI)
11. Chen SR, Wang SW, Lin YC, Yu CL, Yen JY, **Chen YF***, Cheng YB*. (2021) Additional alkaloids from *Zoanthus vietnamensis* with neuroprotective and anti-angiogenic effects. *Bioorganic Chemistry*. 109:104700. (*equal contribution as the corresponding author) (SCI)
12. Ko HH, Chang YT, Kuo YH, Lin CH, **Chen YF***. (2021) *Oenothera laciniata* Hill extracts exhibits antioxidant effects and attenuates melanogenesis in B16-F10 Cells via downregulating CREB/MITF/Tyrosinase and upregulating p-ERK and p-JNK. *Plants (Basel)*. 10(4):727. (SCI)
13. Huang YT, HsuYT, **Chen YF**, Shen MR* (2021) Super-resolution microscopy reveals that

- stromal interaction molecule 1 trafficking depends on microtubule dynamics. *Frontiers in Physiology*. 12:762387. (SCI)
14. Wu HC, **Chen YF**, Cheng MJ, Wu MD, Chen YL, Chang HS*. (2021) Different types of components obtained from *Monascus purpureus* with neuroprotective and anti-inflammatory potentials. *Food & Function*. 12(18):8694-8703.
 15. Wu HC, **Chen YF**, Cheng MJ, Wu MD, Chen YL, Chang HS*. (2021) Investigations into chemical components from *Monascus purpureus* with photoprotective and anti-melanogenic activities. *Journal of Fungi (Basel)*. 7(8):619. (SCI)
 16. Jadhao M, Tsai EM, Yang HC, **Chen YF**, Liang SS, Wang TN, Teng YN, Huang HW, Wang LF, Chiu CC*. (2021) The long-term DEHP exposure confers multidrug resistance of triple-negative breast cancer cells through ABC transporters and intracellular ROS. *Antioxidants (Basel)*. 10(6):949. (SCI)
 17. Chen YS, Chang HS, Hsiao HH, **Chen YF**, Kuo YP, Yen FL, Yen CH*. (2021) Identification of *Beilschmiedia tsangii* root extract as a liver cancer cell-normal keratinocyte dual-selective NRF2 regulator. *Antioxidants (Basel)*. 10(4):544. (SCI)
 18. Hsu HF, Chen KM*, Belcastro F, **Chen YF**. (2021) Polypharmacy and pattern of medication use in community-dwelling older adults: a systematic review. *Journal of Clinical Nursing*. 30(7-8):918-928. (SCI)
 19. Hsu SK, Li CY, Lin IL, Syue WJ, **Chen YF**, Cheng KC, Teng YN, Lin YH, Yen CH, Chiu CC*. (2021) Inflammation-related pyroptosis, a novel programmed cell death pathway, and its crosstalk with immune therapy in cancer treatment. *Theranostics* 11(18):8813-8835. (SCI)
 20. **Chen YF**, Wu SN, Gao JM, Liao ZY, Tseng YT, Fülöp F, Chang FR, Lo YC*. (2020) The antioxidant, anti-inflammatory, and neuroprotective properties of the synthetic chalcone derivative AN07. *Molecules*. 25(12):2907. (SCI)
 21. Hsu SK, Chang WT, Lin IL, **Chen YF**, Padalwar NB, Cheng KC, Teng YN, Wang CH, Chiu CC*. (2020) The role of necroptosis in ROS-mediated cancer therapies and its promising applications. *Cancers (Basel)*. 12(8):2185. (SCI)
 22. **Chen YF**, Chen LH, Shen MR*. (2019) The distinct role of STIM1 and STIM2 in the regulation of store-operated Ca²⁺ entry and cellular function. *Journal of Cellular Physiology*. 234(6):8727-8739. (SCI)
 23. **Chen YF**, Lin PC, Yeh YM, Chen LH, Shen MR*. (2019) Store-operated Ca²⁺ entry in tumor progression: from molecular mechanisms to clinical implications. *Cancers (Basel)*. 11(7):899. (SCI)
 24. Lin YC, Ko YC, Hung SC, Lin YT, Lee JH, Tsai JY, Kung PH, Tsai MC, **Chen YF**, Wu CC. (2019) Selective inhibition of PAR4 (protease-activated receptor 4)-mediated platelet activation by a synthetic nonanticoagulant heparin analog. *Arteriosclerosis, Thrombosis, and Vascular Biology*. 39(4):694-703. (SCI)
 25. Chiang WF, Cheng TM, Chang CC, Pan SH, Changou CA, Chang TH, Lee KH, Wu SY, **Chen YF**, Chuang KH, Shieh DB, Chen YL, Tu CC, Tsui WL, Wu MH*. (2018) Carcinoembryonic antigen-related cell adhesion molecule 6 (CEACAM6) promotes EGF receptor signaling of oral squamous cell carcinoma metastasis via the complex N-glycosylation. *Oncogene*. 37(1):116-127. (SCI)

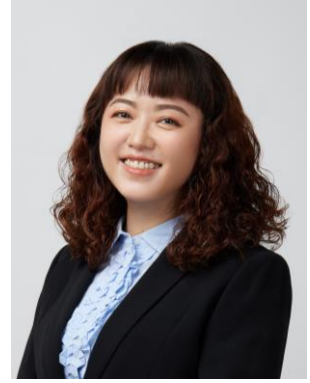
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26. Chen YW, Lai CS, **Chen YF**, Chiu WT, Chen HC, Shen MR*. (2017) STIM1-dependent Ca²⁺ signaling regulates podosome formation to facilitate cancer cell invasion. *Scientific Reports*. 7(1):11523. (SCI)
 27. Chen YF, Chen LH, Yeh YM, Wu PY, **Chen YF**, Chang LY, Chang JY, Shen MR*. (2017) Minoxidil is a potential neuroprotective drug for paclitaxel-induced peripheral neuropathy. *Scientific Reports* 7:45366. (SCI)
 28. **Chen YF**, Hsu KF, Shen MR*. (2016) The store-operated Ca²⁺ entry-mediated signaling is important for cancer spread. *Biochimica et Biophysica Acta-Molecular Cell Research*. 1863(6 Pt B):1427-1435. (SCI)
 29. Chen YW, **Chen YF**, Chen YT, Chiu WT, Shen MR*. (2016) The STIM1-Orai1 pathway of store-operated Ca²⁺ entry controls the checkpoint in cell cycle G1/S transition. *Scientific Reports*. 6:22142. (SCI)
 30. Chen LH, Sun YT, **Chen YF**, Lee MY, Chang LY, Chang JY, Shen MR*. (2015) Integrating image-based high-content screening with mouse models identifies 5-hydroxydecanoate as a neuroprotective drug for paclitaxel-induced neuropathy. *Molecular Cancer Therapeutics*. 14(10):2206-2214. (SCI)
 31. Chen YT[#], **Chen YF**[#], Chiu WT, Liu KY, Liu YL, Chang JY, Chang HS, Shen MR*. (2013) Microtubule-associated histone deacetylase 6 supports the calcium store sensor STIM1 in mediating malignant cell behaviors. *Cancer Research*. 73(14):4500-4509. (**#equal contribution as the 1st author**) (SCI)
 32. **Chen YF**, Chen YT, Chiu WT, Shen MR*. (2013) Remodeling of calcium signaling in tumor progression. *Journal of Biomedical Science*. 17;20:23. (**invited review article**) (SCI)
 33. Chen YT, **Chen YF**, Chiu WT, Wang YK, Chang HC, Shen MR*. (2013) The ER Ca²⁺ sensor STIM1 regulates actomyosin contractility of migratory cells. *Journal of Cell Science*. 126 (Pt 5):1260-1267. (SCI)
 34. **Chen YF**[#], Chiu WT[#], Chen YT, Lin PY, Huang HJ, Chou CY, Chang HS, Tang MJ, Shen MR*. (2011) Calcium store sensor STIM1-dependent signaling plays an important role in cervical cancer growth, migration and angiogenesis. *Proceedings of the National Academy of Sciences USA*. 108(37):15225-15230. (**#equal contribution as the 1st author**) (SCI)
 35. **Chen YF**, Chou CY, Ellory JC, Shen MR*. (2010) The emerging role of KCl cotransport in tumor biology. *American Journal of Translational Research*. 2(4):345-355. (**invited review article**) (SCI)
 36. **Chen YF**, Chou CY, Wilkins RJ, Ellory JC, Mount DB, Shen MR*. (2009) Motor protein-dependent membrane trafficking of KCl cotransporter-4 is important for cancer cell invasion. *Cancer Research*. 69(22):8585-8593. (SCI)
 37. Hsu YM, **Chen YF**, Chou CY, Tang MJ, Chen JH, Wilkins RJ, Ellory JC, Shen MR*. (2007) KCl cotransporter-3 down-regulates E-cadherin/beta-catenin complex to promote epithelial-mesenchymal transition. *Cancer Research*. 67(22):11064-11073. (SCI)
 38. Hsu KF, Huang SC, Shiau AL, Cheng YM, Shen MR, **Chen YF**, Lin CY, Lee BH, Chou CY*. (2007) Increased expression level of squamous cell carcinoma antigen 2 and 1 ratio is associated with poor prognosis in early-stage uterine cervical cancer. *International Journal of Gynecological Cancer*. 17(1):174-181. (SCI)

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39. Hsu YM, Chou CY, Chen HH, Lee WY, **Chen YF**, Lin PW, Alper SL, Ellory JC, Shen MR*. (2007) IGF-1 upregulates electroneutral K-Cl cotransporter KCC3 and KCC4 which are differentially required for breast cancer cell proliferation and invasiveness. *Journal of Cellular Physiology*. 210(3):626-636. (SCI)
 40. Shen MR, Hsu YM, Hsu KF, **Chen YF**, Tang MJ, Chou CY*. (2006) Insulin-like growth factor 1 is a potent stimulator of cervical cancer cell invasiveness and proliferation that is modulated by alphavbeta3 integrin signaling. *Carcinogenesis*. 27(5):962-971. (SCI)

COMMUNICATION & PRESENTATION

1. **Poster**, A cellular image-based high-throughput screening platform for the investigation of paclitaxel-induced peripheral neuropathy. The 37th Symposium on Natural Products, Kaohsiung, Taiwan, October 2022.
2. **Poster**, Development of natural skin protective agents against particulate matter-induced E-cadherin delocalization. The 37th Symposium on Natural Products, Kaohsiung, Taiwan, October 2022.
3. **Poster**, *Phyla nodiflora* extracts protect human keratinocytes from particulate matter-induced oxidative stress through the Nrf2/HO-1 pathway. The 37th Symposium on Natural Products, Kaohsiung, Taiwan, October 2022.
4. **Poster**, To establish the in vitro model of chemotherapy-induced peripheral neurotoxicity in dorsal root ganglion (DRG) cell line: cell viability loss & oxidative damages. The 37th Symposium on Natural Products, Kaohsiung, Taiwan, October 2022.
5. **Poster**, Paclitaxel-induced peripheral neuropathy in a dish: a neuronal cell-based high-content image platform. The 14th Meeting of the Asia Pacific Federation of Pharmacologists (APFP). Taipei, Taiwan, November 2021.
6. **Poster**, Establishment of an image-based analysis platform of particulate matter (PM)-induced skin cell dysfunction. The 14th Meeting of the Asia Pacific Federation of Pharmacologists (APFP). Taipei, Taiwan, November 2021.
7. **Invited Talk**, Cellular imaging analysis platforms for exploring anticancer or neuroprotective natural products. The 36th Symposium on Natural Products & Symposium on Traditional Chinese Medicine and Pharmacy. Kaohsiung, Taiwan, October 2021.
8. **Poster**, *Diaporthe cynaroides*, an endophytic fungi from formosan plants, attenuates UVB-induced photodamage in human keratinocytes. The 69th International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research (GA), Bonn, Germany (Virtual conference), September 2021.
9. **Poster**, Development of a neuronal cell-based high-content image screening platform of paclitaxel-induced peripheral neuropathy. The 69th International Congress and Annual Meeting of the Society for Medicinal Plant and Natural Product Research (GA), Bonn, Germany (Virtual conference), September 2021.
10. **Invited Talk (online)**, Remodeling of Ca²⁺ signaling in tumor progression. PharSciTech Special Seminar, Chulalongkorn University, Bangkok, Thailand, February 2021.
11. **Poster**, Anti-malignant potentials of flavokawain B inclusion complex in melanoma. The 35th Symposium of Natural Products, Taipei, Taiwan, September 2020.
12. **Session Moderator**, Academic Forum of Academic Strategic Alliance: Taiwan and Oxford University, Oxford, UK, December 2018.
13. **Invited talk**, The nanoscale dynamics of ER Ca²⁺ sensors in the regulation of Ca²⁺ homeostasis. Academic Forum of Academic Strategic Alliance: Taiwan and Oxford University, Tainan, Taiwan, September 2018.
14. **Poster**, Secondary metabolites and their bioactivities from the root of *Cryptocarya concinna*. The 66th Annual Meeting of the Society for Medicinal Plant and Natural Product Research (GA), Shanghai, China, August 2018.
15. **Poster**, Investigation into cellular mechanisms underlying the anti-cancer effects of artemisinin and its derivatives. Kaohsiung International Instruments & Chemtech Expo. Kaohsiung, Taiwan, May 2018.

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16. **Poster**, The differential impact of STIM1 and STIM2 on Ca²⁺ homeostasis and tumor invasiveness. Gordon Research Conference- Calcium Signalling, Lucca, Italy, June 2017.
 17. **Poster**, Chemical constituents and cytotoxic activities from the root of *Cryptocarya concinna*. The 65th Annual Meeting of the Society for Medicinal Plant and Natural Product Research (GA), Basel, Switzerland, September 2017.
 18. **Poster**, Chemical constituents and cytotoxic activities of the root of *Cryptocarya concinna*. Annual Meeting of the pharmaceutical Society of Taiwan, Taipei, Taiwan, December 2016.
 19. **Poster**, To target microtubule-associated histone deacetylase 6 as a strategy to inhibit store-operated calcium entry-mediated malignant cell behaviors. EMBO | EMBL Symposia-Microtubules: From Atoms to Complex Systems, EMBL Heidelberg, Germany, May 2016.
 20. **Poster**, Differential roles of ER calcium sensor STIM proteins in SOCE activation and specific cellular functions. Gordon Research Conference- Calcium Signalling, Newry, ME, USA, June 2015.
 21. **Poster**, The calcium store sensor STIM1 is an important regulator for cancer cell migration. Beatson International Cancer Conference: Powering the Cancer Machine, Glasgow, UK, July 2014.
 22. **Invited talk**, Decoding Ca²⁺ Signalings for Cancer Progression. The 37th World Congress of the International Union of Physiological Sciences (IUPS meeting), Birmingham, UK, July 2013.
 23. **Invited talk**, Remodeling of Ca²⁺ signaling in cancer cell migration. Taiwan-Russia Joint Symposium: Methods of Mechanics for Physiology and Cell Biology, Taiwan, November 2013.
 24. **Poster**, Microtubule-associated histone deacetylase 6 is a potential target to interfere with calcium store sensor STIM1-mediated cancer malignant behaviors. Gordon Research Conference- Calcium Signalling, Lucca, Italy, June 2013.
 25. **Poster**, Endoplasmic reticulum Ca²⁺ sensor STIM1 (stromal interaction molecule 1) functions as a dynamic signal transducer for cancer cell mechanics. EMBO Conference - the Physiology of ER, Girona, Spain, October 2012.
 26. **Poster**, Histone deacetylase 6 is necessary for the trafficking of ER Ca²⁺ sensor STIM1 that regulates actomyosin contractility of migratory cells. Beatson International Cancer Conference: Membrane Dynamics in Cancer, Glasgow, UK, July 2012.
 27. **Poster**, Calcium store sensor STIM1-dependent signaling plays an important role in cervical cancer growth, migration and angiogenesis. National Cancer Research Institute (NCRI) Cancer Conference, Liverpool, UK, November 2011.
 28. **Poster**, KCl cotransport is important for actin reorganization and focal adhesion dynamics during cancer cell migration. The 50th Annual Meeting of the American Society for Cell Biology, Philadelphia, PA, USA, December 2010.
 29. **Poster**, Genetic dissection of potassium chloride cotransporter (KCC) functions in epithelial development and carcinogenesis in *Drosophila*. Physiological Society Annual Meeting, Dublin, Ireland, July 2009.
 30. **Poster**, Membrane Trafficking of K-Cl Cotransporter KCC4 Is Important for Ovarian Cancer Cell Invasiveness. The 46th Annual Meeting of the American Society for Cell Biology, San Diego, CA, USA, December 2006.



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研究興趣

- 藉由本研究室建立之**生理病理研究模式**及相關**生醫影像關鍵技術** (如：活細胞鈣離子影像檢測、高解析度分子影像分析、高通量細胞影像系統等)，並藉由與天然物化學及藥物化學專家的跨域整合團隊合作，針對活性天然物及小分子藥物庫進行篩選，搭配細胞模式及動物試驗以驗證藥理機轉及療效，以發展有治療潛力之活性藥物。
- **癌症轉移現象之細胞骨架及鈣離子訊息調控機制探討&治療方針開發**：癌細胞的移動及轉移為影響癌症病患存活的主因；細胞骨架(cytoskeleton)的動態重組是癌細胞轉移能力的關鍵調控機制；細胞的鈣離子相關訊息可調節許多基本生命功能，包括細胞的移動。本研究室以細胞鈣離子訊息及細胞骨架調控為研究標的，研發具有抑制癌細胞轉移能力的活性藥物。
- **化學治療引發神經毒性機制探討&新穎神經保護藥物開發**：藉由以細胞分子影像基礎之高通量細胞影像藥物篩選平台，結合細胞模式及動物模式，自植物、動物及微生物來源天然物藥庫，開發高潛力新穎神經保護藥物，以緩解癌症病患接受抗癌藥物治療時所引起的神經毒症狀及神經病變，提升病患對於抗癌藥物的耐受性並改善病患生活品質。
- **皮膚防禦屏障和水通道蛋白調控機制探討&皮膚屏障保護劑開發**：紫外光 (ultraviolet rays, UVR)及空汙懸浮微粒 (particulate matters, PM)為現代工業化環境中最主要的皮膚屏障損害因子，易引發皮膚微環境的氧化壓力及發炎性損傷，導致皮膚老化及增加皮膚癌化風險。本研究室利用人類皮膚細胞培養模式模擬皮膚微環境，研究環境壓力導致之皮膚屏障損傷機制，研發具保護皮膚屏障功效之活性天然物，以開發功能性美粧品。

研究專長

- 天然藥物之藥理機轉及治療活性研究
- 細胞生物學、分子生物學、癌症生物學、藥理學
- 先進生醫影像技術

學術榮譽

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- 高雄醫學大學 技術轉移優良獎 (2019 年) 及 專利獲證優良獎 (2021 年)
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- 高雄醫學大學 教學優良教師 (106、108、109 學年度)
- 高雄醫學大學 績優導師 (105、107 學年度)
- 科技部 延攬研究學者-助理研究員獎助 (2014 年)

論文著作

1. Chang YC, Lo YC, Chang HS, Lin HC, Chiu CC, **Chen YF***. (2023) An efficient cellular image-based platform for high-content screening of neuroprotective agents against chemotherapy-induced neuropathy. *NeuroToxicology*. 96:118-128. (SCI)

本研究利用成熟分化之背根神經節細胞株建立一高通量神經細胞顯微影像平台，透過神經軸突延展(neurite outgrowth)之影像分析，以檢測可緩解化療藥物引發周邊神經病變之神經保護藥物。藉評估paclitaxel、oxaliplatin、bortezomib及5-fluourcil等不同神經毒性程度化療藥物造成之神經軸突損傷，更驗證此平台的高度敏感性及再現性。此外發現在經paclitaxel損傷之背根神經節細胞中，具顯著增加之鈣池調控鈣離子流入(store-operated Ca^{2+} entry; SOCE)活性，可能為paclitaxel造成神經毒性的重要機制。本研究建立之高通量神經細胞顯微影像平台，可為神經保護新藥開發之臨床前藥物篩選與評估研究的一大利器。

2. **Chen YF**, Wu HC, Chang JM, Ko HH, Lin CH, Chang HS*. (2023) Chemical investigations and cytotoxic effects of metabolites from *Antrodia camphorata* against human hepatocellular carcinoma cells. *Natural Product Research*. 37(4):560-570. (SCI)

本研究從牛樟芝 (*Antrodia camphorate* KH37)菌絲體醱酵物分離純化得到10個化合物，包括一個新的醌類化合物 antroquinonol Z (**1**) 及9個已知化合物 (**2-10**)。以人類肝癌細胞株進行抗癌細胞毒殺活性試驗，發現牛樟芝的乙酸乙酯層之部份分割層及化合物 antroquinonol Z (**1**)、antrocamol LT1 (**2**) 及 antrocamol LT3 (**3**) 皆具有顯著肝癌細胞毒殺活性。本研究結果證實牛樟芝具有抗肝癌活性，且具肝癌之輔助治療藥物之開發潛力。

3. Chen SR, **Chen YF**, Lin JJ, Ke TY, Lin YS, Cheng YB*. (2023) 2,6-Disubstituted Piperidine Alkaloids with Neuroprotective Activity from *Hippobroma longiflora*. *Planta Medica*. 289(3):308-315. (SCI).

針對從馬醉草 (*Hippobroma longiflora*)中分離出的化合物，以小鼠背根神經節細胞影像平台進行神經保護的活性測試，發現(-)-cis-2',2''-diphenyllobelidiol 具有緩解化學治療藥物太平洋紫杉醇引起的周邊神經病變的藥理活性；且在人類子宮頸癌細胞模式中也證實(-)-cis-2',2''-diphenyllobelidiol 不干擾紫杉醇的抗癌活性。本研究結果證實海葵生物鹼具有做為新穎神經保護劑的潛力。

4. Lee CW, Chu MC, Wu HF, Chung YJ, Hsieh TH, Chang CY, Lin YC, Lu TY, Chang CH, Chi H, Chang HS, **Chen YF**, Li CT, Lin HC*. (2023) Different synaptic mechanisms of intermittent and continuous theta-burst stimulations in a severe foot-shock induced and treatment-resistant depression in a rat model. *Experimental Neurology*. 362:114338. (SCI)

本研究利用不同程度的足部電刺激(foot-shock)作為壓力創傷(traumatic stress)，以建立抗憂鬱劑藥物阻抗的大鼠動物模式(rat model of treatment-resistant depression)，並針對不同突觸調控及theta波經顱磁刺激進行機制探討。

5. **Chen YF** & Shen MR*. (2022) The important role of ion transport system in cervical cancer. *International Journal of Molecular Sciences*. 23(1): 333. (SCI)

由內質網所啟動的”鈣池調控鈣離子流入(store-operated Ca^{2+} entry; SOCE)”調控上皮細胞內鈣離子恆定；鉀氯離子共同運輸蛋白(KCl cotransporters)則調控上皮細胞體積及滲透壓平衡。本文綜述此二種重要的運輸現象在子宮頸癌細胞的增生、移動、侵犯和轉移的細胞分子調控機制、生理病理重要性、及作為子宮頸癌輔助治療標的臨床應用價值。

6. Yang SS, **Chen YF**, Ko HH, Wu HC, Hsieh SY, Wu MD, Cheng MJ, Chang HS*. (2022) Undescribed alkyne-geranylcylohexenetriols from the endophyte *Diaporthe caulivora* 09F0132 and their anti-melanogenic activity. *Phytochemistry*. 202:113312. (SCI)

從樟科大武新木薑子 (*Neolitsea daibuensis*) 之葉部内生菌：大豆間座殼菌 (*Diaporthe caulivora* 09F0132) 之固態發酵物分離得到9個 alkyne-geranylcylohexenetriol 類新穎化合物、1個自天然物首次分離化合物及8個已知化合物。以黑色素細胞研究模式發現化合物 caulivotrioloxin A 可降低黑色素生成及其關鍵酵素酪胺酸酶的活性，顯示具抗黑色素沉著功效；而在機制研究的結果證實 caulivotrioloxin A 可降低酪氨酸酶及相關酵素的蛋白表現量。本研究證實大豆間座殼菌可應用於抗黑色素沉著美粧產品之活性原料。

7. Hsieh YS, **Chen YF**, Cheng YY, Liu WY, Wu YT*. (2022) Self-emulsifying phospholipid pre-concentrates for the enhanced photoprotection of luteolin. *Pharmaceutics*. 14(9):1896. (SCI)

木犀草素(luteolin)是一種天然抗氧化物，並可吸收紫外線，具有皮膚屏障保護劑開發潛力，但其水溶性和皮膚滲透性有限。本研究開發木犀草素之自乳化劑型以提升木犀草素於劑型中含量；並藉由皮膚角質細胞之功效性試驗，證實與木犀草素標準品相比，木犀草素之自乳化劑型可顯著提升細胞穿透效果及降低紫外線誘發之細胞氧化壓力。本研究證實木犀草素之自乳化劑型之皮膚光保護潛力及皮膚屏障保護劑開發價值。

8. Chen SR, Wang SW, Lin YC, Yu CL, Yen JY, **Chen YF***, Cheng YB*. (2021) Additional alkaloids from *Zoanthus vietnamensis* with neuroprotective and anti-angiogenic effects. *Bioorganic Chemistry*. 109:104700. (*equal contribution as the corresponding author) (SCI)

利用酸鹼萃取法從越南花裙海葵 (*Zoanthus vietnamensis*) 中分離出11個新穎生物鹼以及8個已知化合物。針對其中4個主量化合物進一步以小鼠背根神經節細胞影像平台進行神經保護的活性測試，發現 zoanthamine 和 norzoanthamine 具有緩解化學治療藥物太平洋紫杉醇引起的周邊神經病變的藥理活性；且在人類子宮頸癌細胞模式中也證實 zoanthamine 和 norzoanthamine 不干擾紫杉醇的抗癌活性。本研究的結果證實海葵生物鹼具有做為新穎神經保護劑的潛力。

9. Ko HH, Chang YT, Kuo YH, Lin CH, **Chen YF*** (2021) *Oenothera laciniata* Hill Extracts Exhibits Antioxidant Effects and Attenuates Melanogenesis in B16-F10 Cells via Downregulating CREB/MITF/Tyrosinase and Upregulating p-ERK and p-JNK. *Plants (Basel)*. 10(4):727. (SCI)

本研究深利用總酚含量、對DPPH[·]、ABTS⁺⁺及O₂⁻自由基清除力、還原力及亞鐵離子螯合、蘑菇酪胺酸酶活性等細胞外試驗，並搭配B16-F10黑色素細胞模式，驗證裂葉月見草 (*Oenothera laciniata* Hill) 甲醇萃取物及不同萃取層具有抗氧化和抗黑色素的雙重活性。藉由B16-F10黑色素細胞模式中的機制探討研究驗證，調節黑色素生成相關轉錄因子及訊息路徑，並抑制酪氨酸酶及相關酵素的蛋白表現，從而抑制黑色素生成。本研究結果證實裂葉月見草可開發為安全有效的抗皮膚黑色素沉著保護劑。

10. Wu HC, **Chen YF**, Cheng MJ, Wu MD, Chen YL, Chang HS*. (2021) Different types of components obtained from *Monascus purpureus* with neuroprotective and anti-inflammatory potentials. *Food & Function*. 12(18):8694-8703.

從紫色紅麴菌 (*Monascus purpureus* BCRC 38110) 醱酵物分離得到17個化合物 [四氫萘酮 (tetralones) 為主]。以小鼠背根神經節細胞影像平台進行神經保護活性測試，發現 monascuspirolide B 和 ergosterol peroxide 可緩解化學治療藥物太平洋紫杉醇引起的周邊神經病變；且在人類子宮頸癌細胞模式中也證實 monascuspirolide B 和 ergosterol peroxide 不干擾紫杉醇的抗癌活性。本研究結果證實紅麴具有做為新穎神經保護劑的潛力。

11. Wu HC, **Chen YF**, Cheng MJ, Wu MD, Chen YL, Chang HS*. (2021) Investigations into chemical components from *Monascus purpureus* with photoprotective and anti-melanogenic activities. *Journal of Fungi (Basel)*. 7(8):619. (SCI)

從紫色紅麴菌 (*Monascus purpureus* BCRC 38110) 醱酵物分離得到8個化合物 [(氧雜蒽酮 (xanthonoids) 及雜氮酚酮 (azaphilones)]。以UVB誘發皮膚角質細胞光損傷模式發現 monascuspirolide B 及 ergosterol peroxide 可緩解UVB造成人類皮膚角質細胞之存活率下降及活性氧化物生成率上升，顯示具促角質細胞再生及抗氧化活性。以黑色素細胞研究模式發現 ergosterol peroxide 可降低黑色素生成及其關鍵酵素酪胺酸酶的活性，顯示具抗黑色素沉著及美白功效。本研究證實紅麴的皮膚屏障保護機能及美粧品活性原料開發潛力。

12. Huang YT, HsuYT, **Chen YF**, Shen MR* (2021) Super-resolution microscopy reveals that stromal interaction molecule 1 trafficking depends on microtubule dynamics. *Frontiers in Physiology*. 12:762387. (SCI)

本研究深入解析內質網鈣離子感應蛋白STIM1的上游活化機制，及此機制對癌細胞的增生及移動的重要性；利用超高解析顯微影像分析及高感度胞內鈣離子流動觀測等先進細胞光

學影像技術，並分析基因體醫學大數據資料以建立癌症相關之STIM1基因變異細胞株，發現微管骨架蛋白的結構及其蛋白交互作用網絡對於STIM1的胞內移動、後續鈣離子相關訊息路徑活化、及癌細胞的增生及移動功能，皆扮演重要的調控角色。

13. Chen YS, Chang HS, Hsiao HH, **Chen YF**, Kuo YP, Yen FL, Yen CH*. Identification of *Beilschmiedia tsangii* Root Extract as a Liver Cancer Cell–Normal Keratinocyte Dual-Selective NRF2 Regulator. *Antioxidants (Basel)*. 10 (4):544. (SCI)

本研究發現華河瓊楠 (*Beilschmiedia tsangii*) 根部萃取物對於人類肝癌細胞和正常角質上皮細胞中的細胞抗氧化程序重要轉錄因子nuclear factor erythroid 2-related factor 2 (NRF2) 具有雙向選擇性的調節活性，可應用於新穎癌症治療策略之開發。

14. Jadhao M, Tsai EM, Yang HC, **Chen YF**, Liang SS, Wang TN, Teng YN, Huang HW, Wang LF, Chiu CC*. (2021) The long-term DEHP exposure confers multidrug resistance of triple-negative breast cancer cells through ABC transporters and intracellular ROS. *Antioxidants (Basel)*. 10(6):949. (SCI)

本研究發現乳癌細胞於塑化劑成份 di-(2-ethylhexyl) phthalate (DEHP)的長期曝露之下，會增加其對於抗癌藥物如doxorubicin的多重抗藥性，並針對其中關於DEHP對於乳癌細胞之多重藥物抗性相關蛋白的調控機制進行深入探討。

15. Hsu HF, Chen KM*, Belcastro F, **Chen YF**. (2021) Polypharmacy and Pattern of Medication Use in Community-dwelling Older Adults: A Systematic Review. *Journal of Clinical Nursing*. 30(7-8):918-928. (SCI)

此系統性文獻回顧針對社區居住老年人的多重用藥及給藥模式的相關研究，顯示社區老年人的多重用藥程度可能與地理位置、臨床用藥指引和多重藥用藥程度定義等因子有關。

16. Hsu SK, Li CY, Lin IL, Syue WJ, **Chen YF**, Cheng KC, Teng YN, Lin YH, Yen CH, Chiu CC*. (2021) Inflammation-related pyroptosis, a novel programmed cell death pathway, and its crosstalk with immune therapy in cancer treatment. *Theranostics* 11(18):8813-8835. (SCI)

綜述發炎反應相關細胞程序性死亡 (pyroptosis) 對癌細胞功能的調控機制，及對腫瘤微環境中的免疫細胞影響，並深入探討這些相關機制於開發癌症治療藥物的應用性。

17. **Chen YF**, Wu SN, Gao JM, Liao ZY, Tseng YT, Fülöp F, Chang FR, Lo YC*. (2020) The antioxidant, anti-inflammatory, and neuroprotective properties of the synthetic chalcone derivative AN07. *Molecules*. 25(12):2907. (SCI)

本研究利用糖解作用之毒性副產物methylglyoxal引發的人類神經細胞損傷研究模式、及細菌酯多醣類lipopolysaccharide所誘發的小鼠巨噬細胞發炎反應研究模式，搭配藥理、生化及細胞生物學實驗，證實查耳酮 (chalcone) 衍生物2-hydroxy-4'-methoxychalcone (簡稱AN07)具有卓越的抗氧化、抗發炎及神經保護的活性，極具開發潛力。

18. Hsu SK, Chang WT, Lin IL, **Chen YF**, Padalwar NB, Cheng KC, Teng YN, Wang CH, Chiu CC*. (2020) The Role of Necroptosis in ROS-Mediated Cancer Therapies and Its Promising Applications. *Cancers (Basel)*. 12(8):2185. (SCI)

綜述細胞壞死性凋亡(necroptosis)及活性氧物質(reactive oxygen species; ROS)機制及相關分子在癌細胞功能的調控機制，並深入探討這些相關機制於開發癌症治療藥物的應用性。

19. **Chen YF**, Chen LH, Shen MR*. (2019) The distinct role of STIM1 and STIM2 in the regulation of store-operated Ca^{2+} entry and cellular function. *Journal of Cellular Physiology*. 234(6):8727-8739. (SCI)

本研究利用具有不同第一型及第二型鈣離子感應蛋白 (STIM1 & STIM2) 表現量的子宮頸癌細胞株及人類子宮頸癌檢體為研究模式，搭配先進活體細胞光學影像實驗，例如：高感度胞內鈣離子流動觀測、高解析度全內反射顯微影像實驗及獨特影像重組及分析技術等，發現STIM1及STIM2分別調控子宮頸癌細胞的不同功能，並證明STIM1 所調控鈣離子流入對於影響癌細胞移動及侵犯的過程的重要性。

20. **Chen YF**, Lin PC, Yeh YM, Chen LH, Shen MR*. (2019) Store-operated Ca^{2+} entry in tumor progression: from molecular mechanisms to clinical implications. *Cancers (Basel)*. 11(7):899. (SCI)

由內質網所啟動的”鈣池調控鈣離子流入(store-operated Ca^{2+} entry; SOCE)”與癌細胞的惡性程度具有高度相關。本文綜述了癌細胞SOCE機制及相關分子在癌細胞的增生、抗藥性、移動、侵犯和轉移的調控機制，討論SOCE影響腫瘤血管生成及抗腫瘤免疫等方面的研究進展，並分析以癌細胞SOCE機制作為癌症輔助治療標的應用價值及臨床意義。

21. Lin YC, Ko YC, Hung SC, Lin YT, Lee JH, Tsai JY, Kung PH, Tsai MC, **Chen YF**, Wu CC. (2019) Selective inhibition of PAR4 (protease-activated receptor 4)-mediated platelet activation by a synthetic nonanticoagulant heparin analog. *Arteriosclerosis, Thrombosis, and Vascular Biology*. 39(4):694-703. (SCI)

探討第四型蛋白酶活化受體(protease-activated receptor 4; PAR4)調控血小板的活化機制及在抗凝血藥物的開發應用。

22. Chen YW, **Chen YF**, Chiu WT, Chen HC, Shen MR*. (2017) STIM1-dependent Ca^{2+} signaling regulates podosome formation to facilitate cancer cell invasion. *Scientific Reports*. 7(1):11523. (SCI)

探討內質網鈣離子感應蛋白STIM1對癌細胞移動及侵犯作用的影響，發現STIM1可藉由調控actomyosin細胞骨架系統，加強細胞侵犯性結構-足體環的穩定性及完整性，進而促進細胞外基質降解及癌細胞的侵犯活性。此機制可應用於研發治療藥物以抑制癌細胞轉移。

23. Chiang WF, Cheng TM, Chang CC, Pan SH, Changou CA, Chang TH, Lee KH, Wu SY, **Chen YF**, Chuang KH, Shieh DB, Chen YL, Tu CC, Tsui WL, Wu MH*. (2018) Carcinoembryonic antigen-related cell adhesion molecule 6 (CEACAM6) promotes EGF receptor signaling of oral squamous cell carcinoma metastasis via the complex N-glycosylation. *Oncogene*. 37(1):116-127. (SCI)

探討癌胚抗原相關細胞黏附分子6 (Carcinoembryonic antigen-related cell adhesion molecule 6; CEACAM6)在調控表皮生長因子接受器訊息傳遞的機制及在口腔癌治療的應用。

24. Chen YF, Chen LH, Yeh YM, Wu PY, **Chen YF**, Chang LY, Chang JY, Shen MR*. (2017) Minoxidil is a potential neuroprotective drug for paclitaxel-induced peripheral neuropathy. *Scientific Reports* 7:45366. (SCI)

利用研究團隊建構之影像基礎之高通量藥物篩選平台結合動物行為及細胞機制模式，發現具有生髮活性的minoxidil為一高潛力的新穎神經保護劑，除了具有緩解化學治療藥物太平洋紫杉醇引起的周邊神經病變的藥理活性，對於紫杉醇的抗癌活性也具有加成作用。

25. **Chen YF**, Hsu KF, Shen MR*. (2016) The store-operated Ca^{2+} entry-mediated signaling is important for cancer spread. *Biochimica et Biophysica Acta-Molecular Cell Research*. 1863(6 Pt B):1427-1435. (SCI)

由內質網鈣離子感應蛋白STIM所啟動的”鈣池調控鈣離子流入(store-operated Ca^{2+} entry; SOCE)”是調控上皮細胞內鈣離子恆定的主要機制。此論文全方位地介紹癌細胞SOCE機制如何影響癌細胞的細胞移動及癌轉移，並提出專一性抑制癌細胞中STIM1的下游鈣離子訊息的具體可能策略，整合論點以支持癌細胞SOCE機制作為癌症輔助治療標的。

26. Chen YW, **Chen YF**, Chen YT, Chiu WT, Shen MR*. (2016) The STIM1-Orai1 pathway of store-operated Ca^{2+} entry controls the checkpoint in cell cycle G1/S transition. *Scientific Reports*. 6:22142. (SCI)

研究內質網鈣離子感應蛋白STIM1對細胞生長的調控，發現STIM1下游的鈣離子訊息可影響週期素蛋白cyclin E表現量及週期素依賴激酶CDK2活性，進而調節細胞週期的G1/S期轉換而影響癌細胞增生。抑制STIM1活性及其下游的鈣離子訊息可阻止細胞週期前進，引起細胞生長休止及細胞自噬或細胞凋亡的現象。此機制可應用於研發治療藥物以抑制癌細胞生長。

27. Chen LH, Sun YT, **Chen YF**, Lee MY, Chang LY, Chang JY, Shen MR*. (2015) Integrating image-based high-content screening with mouse models identifies 5-hydroxydecanoate as a neuroprotective drug for paclitaxel-induced neuropathy. *Molecular Cancer Therapeutics*. 14(10):2206-2214. (SCI)

本研究成功建構以影像基礎之高通量藥物篩選平台(image-based high content drug-screening platform)並結合動物行為及細胞機制模式，並由藥物庫篩選開發一高潛力的新穎神經保護劑5-hydroxydecanoate，具有緩解化學治療藥物太平洋紫杉醇引起的周邊神經病變的藥理活性。

28. Chen YT[#], **Chen YF**[#], Chiu WT, Liu KY, Liu YL, Chang JY, Chang HS, Shen MR*. (2013) Microtubule-associated histone deacetylase 6 supports the calcium store sensor STIM1 in mediating malignant cell behaviors. *Cancer Research*. 73(14):4500-4509. ([#]equal contribution as the 1st author) (SCI)

深入解析內質網鈣離子感應蛋白STIM1的上游活化機制，發現微管骨架蛋白的結構及其蛋白後修飾作用對於STIM1的胞內移動與後續鈣離子相關訊息路徑活化皆扮演重要的調控角色。研究成果顯示癌細胞的鈣離子感應蛋白STIM1相關鈣離子訊息調控路徑可應用於癌症輔助治療或癌症病人的生物標誌，及作為藥物研發或篩選的標的。

29. **Chen YF**, Chen YT, Chiu WT, Shen MR*. (2013) Remodeling of calcium signaling in tumor progression. *Journal of Biomedical Science*. 17;20:23. (**invited review article**) (SCI)

全方位地介紹癌細胞內鈣離子失衡現象如何影響細胞癌化過程及各種指標性癌細胞惡性功能 (如：細胞移動及癌轉移)，亦詳列可能參與其中的鈣離子調控分子，並整合論點以支持癌細胞的鈣離子訊息調控路徑作為癌症輔助治療或癌症病人的生物標誌的應用潛力。

30. Chen YT, **Chen YF**, Chiu WT, Wang YK, Chang HC, Shen MR*. (2013) The ER Ca^{2+} sensor STIM1 regulates actomyosin contractility of migratory cells. *Journal of Cell Science*. 126 (Pt 5):1260-1267. (SCI)

探討內質網鈣離子感應蛋白STIM1對癌細胞移動的影響，發現STIM1可藉由調控actomyosin細胞骨架系統，影響細胞的生物力學現象，進而促進癌細胞的移轉活性。此機制可應用於研發治療藥物以抑制癌細胞轉移。

31. **Chen YF**[#], Chiu WT[#], Chen YT, Lin PY, Huang HJ, Chou CY, Chang HS, Tang MJ, Shen MR*. (2011) Calcium store sensor STIM1-dependent signaling plays an important role in cervical cancer growth, migration and angiogenesis. *Proceedings of the National Academy of Sciences USA*. 108(37):15225-15230. (**#equal contribution as the 1st author**) (SCI)

探討內質網鈣離子感應蛋白STIM1對癌細胞增生、移動及腫瘤血管新生的影響。利用具有不同內質網鈣離子感應蛋白STIM1表現量或功能性的癌細胞株，搭配先進活體細胞光學影像實驗，解析胞內鈣離子恆定失調為細胞癌化過程的重要指標現象。以免疫螢光染色技術分析子宮頸癌病患的癌組織，發現子宮頸癌臨床檢體之鈣離子感應蛋白STIM1表現量和病人預後程度有關；在細胞株實驗發現上皮細胞生長因子 (EGF) 可誘發內質網鈣離子感應蛋白STIM1對細胞膜鈣離子通道的活化作用，繼而引發細胞外鈣離子大量流入細胞；而此胞外鈣離子流入對於子宮頸癌細胞之生長及移行扮演相當重要的調控角色；且在活體動物研究中發現阻斷STIM1下游鈣離子訊息傳遞可抑制腫瘤生長及血管新生。

32. **Chen YF**, Chou CY, Ellory JC, Shen MR*. (2010) The emerging role of KCl cotransport in tumor biology. *American Journal of Translational Research*. 2(4):345-355. (**invited review article**) (SCI)

針對鉀氯離子共同運輸蛋白(KCl cotransporters)對癌症侵犯及轉移的重要性及獨特調控機制進行全方位的介紹與分析。

33. **Chen YF**, Chou CY, Wilkins RJ, Ellory JC, Mount DB, Shen MR*. (2009) Motor protein-dependent membrane trafficking of KCl cotransporter-4 is important for cancer cell invasion. *Cancer Research*. 69(22):8585-8593. (SCI)

探討第四型鉀氯離子共同運輸蛋白(KCl cotransporter-4)對癌症侵犯及轉移的重要性及獨特調控機制。從人類子宮頸癌及卵巢癌的臨床檢體，發現癌細胞中的第四型鉀氯離子共同運輸蛋白(KCC4)表現量和癌細胞侵犯、轉移及癌症病人的預後表現有一致的趨勢。在癌細胞株實驗配合先進光學影像技術發現，第一型類胰島素生長因子 (IGF-1) 及上皮生長因子 (EGF) 會促進侵犯性癌細胞中的KCC4從胞器運送到前端(leading edge)的細胞膜上；KCC4於此處和細胞骨架結合蛋白ezrin相互作用以調控細胞骨架結構，而促進癌細胞

的侵犯及轉移能力。此研究成果可應用為癌症病人的預後生物標誌，也可作為預防癌細胞轉移的治療標的。

34. Hsu YM, **Chen YF**, Chou CY, Tang MJ, Chen JH, Wilkins RJ, Ellory JC, Shen MR*. (2007) KCl cotransporter-3 down-regulates E-cadherin/beta-catenin complex to promote epithelial-mesenchymal transition. *Cancer Research*. 67(22):11064-11073. (SCI)

探討第三型鉀氯離子共同運輸蛋白(KCl cotransporter-3)藉由調控上細皮胞-間質細胞形態轉換特性(epithelial-mesenchymal transition)之獨特調控機制而促進癌症侵犯及轉移，並可應用於預防癌細胞轉移的治療標的。

35. Hsu KF, Huang SC, Shiau AL, Cheng YM, Shen MR, **Chen YF**, Lin CY, Lee BH, Chou CY*. (2007) Increased expression level of squamous cell carcinoma antigen 2 and 1 ratio is associated with poor prognosis in early-stage uterine cervical cancer. *International Journal of Gynecological Cancer*. 17(1):174-181. (SCI)

探討不同亞型的鱗狀上皮細胞癌抗原 (squamous cell carcinoma antigen)表現量可影響子宮頸癌病患的預後情形。此研究成果可應用為癌症病人的預後生物標誌。

36. Hsu YM, Chou CY, Chen HH, Lee WY, **Chen YF**, Lin PW, Alper SL, Ellory JC, Shen MR*. (2007) IGF-1 upregulates electroneutral K-Cl cotransporter KCC3 and KCC4 which are differentially required for breast cancer cell proliferation and invasiveness. *Journal of Cellular Physiology*. 210(3):626-636. (SCI)

研究第三型及第四型鉀氯離子共同運輸蛋白(KCl cotransporter-3 & KCl cotransporter -4)對於乳癌細胞增生及侵犯作用的各別重要角色。

37. Shen MR, Hsu YM, Hsu KF, **Chen YF**, Tang MJ, Chou CY*. (2006) Insulin-like growth factor 1 is a potent stimulator of cervical cancer cell invasiveness and proliferation that is modulated by alphavbeta3 integrin signaling. *Carcinogenesis*. 27(5):962-971. (SCI)

探討第一型類胰島素生長因子(insulin-like growth factor 1; IGF-1)藉由調控細胞黏附蛋白活性而影響子宮頸癌細胞的增生及侵犯性。