

Name: **Fei-Ting Hsu, Doris, Ph.D**

Date of Birth: 09/11/1988

*Associate Professor*

Department of Biological Science and Technology

China Medical University, Taichung, Taiwan

*Basic Research Director*

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## • EDUCATION & TRAINNING

2006~2010 B.S. Department of Biomedical Imaging and Radiological Science, China Medical University, Taichung, Taiwan

2010~2011 M.S. graduate student Department of Biomedical Imaging and Radiological Sciences, **National Yang-Ming University**, Taipei, Taiwan

2011~2014 Ph.D. Department of Biomedical Imaging and Radiological Sciences, **National Yang-Ming University**, Taipei, Taiwan

### **Ph.D. Dissertation:**

*Synergistic Effect of Sorafenib Combines with Radiation or Vorinostat on Human Hepatocellular Carcinoma is via Inhibition of ERK/NF- $\kappa$ B Signaling Pathway*

## • CURRENT POSITIONS & RELEVANT EXPERIENCES

2021.08-present *Associate Professor*  
Department of Biological Science and Technology  
China Medical University, Taichung, Taiwan

2019.08-present *Committee member*  
Committee member of China Medical University Institutional Animal Care and Utilization  
Committee member of China Medical University Center of Environmental Protection and Safety and Health  
Committee member of Radiation Protection  
Committee member of Medical Research Core Facilities Center

2018.08-2021.07 *Assistant Professor*  
Department of Biological Science and Technology  
China Medical University, Taichung, Taiwan

2017.02-2018.07, *Assistant Professor*

Department of Radiology

School of Medicine

Taipei Medical University, Taipei, Taiwan

- *Setup translation research lab (Wet bench)*
- *Establish NF- $\kappa$ B molecular image platform for cancer related project*
- *Develop MR theranostic probe for cancer therapy, immune cells trafficking, stem cells tracing and diagnosis*
- *Optimize combination therapy of glioblastoma and hepatocellular carcinoma*
- *Validate treatment efficacy of potential compounds on cancer therapy (including new chemical compound, Chinese herb and antidepressant drug)*

2015.07-2018.07, *General Director*

Radiation Protection Committee

Taipei Medical University Hospital, Taipei, Taiwan

2014.09-2018.07, *Medical Physicist*

Department of Medical Imaging

Taipei Medical University Hospital, Taipei, Taiwan

- *Establish radiation protection and dosage control project on Computer Tomography and Mammography*
- *Leading the research project on Mammography and dosage control*
- *Investigation of equipment performance, organization of quality control in imaging systems, design of radiation installations, and control of radiation hazards*
- *Develop the applications of digital computer tomography in clinical*
- *Construct and organize the internship training program for students in Medical Physics, Medicine and Radiological Technology*

#### • **TEACHING EXPERIENCES**

- **Assistant professor, *Biology, An introduction to technology of radiological sciences and Introduction to biomedical engineering***, Undergraduate program in Department of Biomedical Imaging and Radiological Science, China Medical University, Taichung, Taiwan, 2017-present
- ***Biology Laboratory***, Undergraduate program in School of Pharmacy, China Medical University, Taichung, Taiwan, 2017-present
- ***Nanomedicine, Molecular image, Biology, Preview of Biological Science & Technology, Cell biology, Immunology***, Undergraduate and Master program in Department of Biological Science and Technology, China Medical University, Taichung, Taiwan, 2017-present
- ***Stem cells & tissue regeneration***, Master Program in Graduate Institute of Medical Sciences, Taipei Medical University, Taipei, Taiwan, 2017-present
- ***Medical Imaging & Neuroscience***, School of Biomedical Engineering, College of Biomedical Engineering, Taipei, Taiwan, 2017-2019

- **Problem-based learning** course for graduate students, College of Medicine, Taipei Medical University, Taipei, Taiwan, 2017-2018
- **Medical Molecular Imaging (English course)**, International Master/Ph.D. Program in Medicine, College of Medicine, Taipei, Taiwan, 2016-2020
- **Medical Molecular Imaging** course for graduate students, Taipei Medical University, Taipei, Taiwan, 2016-2018
- **Biomedical engineering & disease diagnosis** course for graduate students, Taipei Medical University, Taipei, Taiwan, 2016-2018
- **Problem-based learning** course for graduate students, College of Medicine, Taipei Medical University, Taipei, Taiwan, 2015-2018
- **Clinical Computer Tomography Image** for Resident, 2014-2018
- **Radiologist post-graduate year training program**, 2014-2018
- **Radiobiology** course for graduate students, China Medical University, Taichung, Taiwan, 2014-2015
- **Tumor biology** course for graduate students, China Medical University, Taichung, Taiwan, 2014-2015
- **Molecular Medicine (English course)** for Ph.D student course for graduate students, China Medical University, Taichung, Taiwan, 2018-

- **INTERNATIONAL EXPERIENCES**

2007.7-2007.9     *Role: Exchange student*

*Tu & Yuen Center for Functional Onco-Imaging*

*School of Medicine, University of California Irvine, Irvine, CA, USA*

① Supervisor: Lydia Min-Ying Su

② Related publications during this exchanging program:

- Chen JH, Nie K, Bahri S, Hsu CC, **Hsu FT**, Shih HN, Lin M, Nalcioglu O, Su MY (2010): Decrease in Breast Density in the Contralateral Normal Breast of Patients Receiving Neoadjuvant Chemotherapy: MR Imaging Evaluation, *Radiology* 255: 44-52.
- Chen JH, **Hsu FT**, Shih HN, Hsu CC, Chang D, Nie K, Nalcioglu O, Su MY (2009): Comparison of breast density in the contralateral normal breast of patients with invasive and in situ breast cancer measured on MRI. *Annals of Oncology* 20: 1440-1450.
- Chen JH, **Hsu FT**, Shih HN, Hsu CC, Chang D, Nie K, Nalcioglu O, Su MY (2009): Does breast density show difference in patients with estrogen receptor-positive and estrogen receptor-negative breast cancer measured on MRI. *Annals of Oncology* 20: 1447-1449.

2017.07-2017.08 *Role: **Project Investigator for international students***

Ministry of Science and Technology (MOST) International Summer Students Program

- ① 106/07-08 Supervisor of summer program student from Spain (*Master student: Santiago Garcia Borrego*)
- ② 106/07 Supervisor of summer program student from Belgium (*Bachelor student: Laurens Van Tigchelt*)

2017.01-2020.12 *Role: **Research Investigator***

*MOST NIH/TMU mild-traumatic brain injury project (3 years)*

- ① Collaborators: Elliot A. Stein, Ph.D. Chief, NeuroImaging Research Branch, NIH and Yihong Yang, Ph.D, Chief, MRI and MR spectroscopy National Institute on Drug Abuse (NIDA), NIH
- ② Research project: Mild Traumatic Brain Injury (mTBI) and Brain Disorders (Grant no. NSC 98-2321-B-038-003 -MY3)
- ③ Novel Finding: Our current finding suggested that uncomplicated mTBI, although without significant acute structural damage, may induce astrogliosis and microstructural change resulting in cortical atrophy in the chronic phase.

2017.01~

*Role: **Research Investigator***

*Collaboration project on Glioblastoma*

- ① Collaborator: Seung Hong Choi, M.D, Ph.D. Chief, Molecular and Translational Neuroimaging Lab, Department of Radiology, Seoul National University College of Medicine, South Korea
- ② Research project: Glioblastoma radiogenomic and treatment evaluation project.
- ③ Novel Finding: We suggested that clinical magnetic resonance imaging (MRI) can stratify these molecular subtypes and predict survival to benefit the diagnosis and monitoring of gliomas. The MR radiomics-based method provides a reliable alternative to determine the histology and molecular subtypes of gliomas.
  - Lu CF, Hsu FT, et al. Machine Learning-Based Radiomics for Molecular Subtyping of Gliomas. *Clinical Cancer Research pii: clincanres.3445.2017*

2019.07~

*Role: **Project Investigator (MOST ADD-ON project)***

- ① **Collaborator: Dr. Raymond Ching-Bong Wong, Centre for Eye Research Australia/ Department of Surgery (Ophthalmology), University of Melbourne**
- ② Research project: Human induced neural stem cells with programmed cell death protein-1-thymidine kinase expressed for glioblastoma therapy

2023.09~

*Role: **Project Investigator (NSTC Dragon Gate Program)***

- ① **Collaborator: Dr. Benjamin G. Neel, NYU Langone Health Perlmutter Cancer Center/University of New York, USA**

- ② Research project: Developing a syngeneic multi-mutation brain tumor organoid platform for selecting immunotherapy and combination therapy

- **INVITED TALK**

- Radiogenomic Imaging-linking Advanced MRI and Molecular Diagnostic on Glioblastoma  
*2018.03.02 International Neuro-oncology Symposium*
- Multimodality Molecular Imaging Probes for Cancer Research  
*2018.04.20 Department of Biomedical Sciences and Engineering, National Central University, Taiwan*
- MR Image application for tumor cells, immune cell, stem cell and translational medicine  
*2018.10.04 Department of Biological Science and Technology, China Medical University, Taiwan*
- Molecular imaging of cancers  
*2018.11.28 School of Biomedical Engineering, College of Biomedical Engineering Taipei Medical University, Taiwan*
- Investigate the application potential of molecular magnetic resonance imaging on translational medicine  
*2019.05.24 Joint Conferences on Biotechnology of China Medical University and Asia University.*
- Evaluate the treatment efficacy of miRNA and TRAIL dual expression vector transfected mesenchymal stem cells on glioblastoma and breast cancer.  
*2019.09.03 The 2nd CMU-HU (Hokkaido University) Joint Symposium, China Medical University, Taiwan*
- Develop novel theranostic probe on glioblastoma  
*2021.09.23 Department of Biomedical Engineering, National Yang-Ming Chiao Tung University,*
- Precision Medicine of Umbilical Cord Mesenchymal Stem Cells: COVID-19, Acute Myocardial Infarction, Stroke, and Cancer  
*2021.11.22 Taiwan HealthCare Expo 2022 Taipei*
- Development of theranostic approach for glioblastoma therapy: Nanoparticle and Mesenchymal Stem Cells  
*2022.08.30 Institute Of Pharmacology, National Yang-Ming Chiao Tung University, Taiwan*
- Development of theranostic approach for glioblastoma therapy: Nanoparticle and Mesenchymal Stem Cells  
*2022.09.22 Asian Cellular Therapy Organization (ACTO 2022)*
- Allogeneic Cell-based Immunotherapy Using Dual Gene Modified Mesenchymal Stem Cells  
*2022.11.09 Department of biomedical engineering and environment science, National Tsing Hua University, Taiwan*
- Allogeneic cell-based immunotherapy using dual gene modified mesenchymal stem cells

- **PATENT**

Polyethylene glycol (PEG)-coated Superparamagnetic iron oxide (SPIO) fabrication for cancer therapeutic and diagnosis. *Certification ID: I644687, Taiwan*

2018.12.21 ~ 2036.11.29

Provisional application USA (C42803/US11476): Using miRNA-124 and PD-1 dual genes engineering system on mesenchymal stem cell to develop cancer therapy platform

- **CERTIFICATION & MEMBERS**

- Associate Professor Certificate, Ministry of Education, Reg. No: 148450, 2021, Taiwan.
- Assistant Professor Certificate, Ministry of Education, Reg. No: 144755, 2017, Taiwan.
- Certificate of Medical Radiation Technologist, Ministry of Health and Welfare, Reg. No: 006897, 2010, Taiwan.
- Certificate of annual Computer tomography quality-assurance (CT QA)
- Certificate of annual Fluoroscopy quality-assurance (FL QA)
- Certificate of monthly Mammography quality-assurance (MA QA)
- Member of World Molecular Imaging Society, USA.
- Member of Radiological Society of North America, USA.
- Active member of American Association for Cancer Research, USA

- **BRIEF STATEMENT OF MY RESEARCH EXPERIENCES:**

During the past nine years, I have been doing research in the field involving in **cancer oncology, molecular biology, radiobiology, molecular image, theranostic drugs application and cancer immunology**. This training process has helped me gain the skills in developing a specific imaging biomarker using multi-modality of the molecular imaging (including Bioluminescence image, 7 T and 3T Magnetic resonance imaging techniques) in cancer detection and molecular tumor biology to understand the tumor molecular mechanism. Our group is mainly working on therapeutic evaluation of tumor oncology with various molecular image system supports. 1) We had successfully established various molecular image monitoring systems on more than 8 types of cancer models, including glioblastoma, non-small cell lung cancer, hepatocellular carcinoma, bladder cancer, colon cancer, osteosarcoma...etc. 2) For oncology therapies development, we try to identify possible combination treatment strategies, possible Chinese herb and also drug repurposing evaluation. 3) Importantly, we constructed suitable mesenchymal stem cells tracking image system by MRI. This may effectively support cell-based therapy to dynamically identify delivery and treatment efficacy. Cell-based therapy system is a "Living Drugs" system, which display better potential to fight cancer. Fabricate MSCs based gene delivery system may be used as a promising anti-tumor agent, which could provide a new benefit for cancer patients. 4) Furthermore, we are also trying to **establish theranostic probe platform in oncology field by combination of target therapy drug, microRNA expression and MRI, which will be helpful in comprehensive understanding and management of cancer**. 5) Immune based antibody therapy is another project of our group. We try to investigate various combination strategy of

antibodies combination therapy on melanoma, colon rectal carcinoma and glioblastoma. Several patents was also preparing according to our latest finding. Our researches are focus on comprehensively encompass molecular images and therapeutic strategies to improve the cancer management. Thus, the major GOAL of our research is the provision of new insights into oncology therapeutic approaches and aimed at prolonging the overall patient survival.

- **GRANTS**

- 2018.05-2019.04 Taipei Medical University/Taipei Medical University Hospital Grant  
*Trafficking the infiltration of iron oxide labeling placenta-derived mesenchymal stem cells on glioblastoma animal model by MRI*  
**Role: PI**  
Grant Number: 107TMU-TMUH-18 (NT\$ 500,000)
- 2018.08-2020.07 Ministry of Science and Technology (MOST)  
*Therapeutic efficacy and mechanism investigation for imipramine in glioblastoma.*  
**Role: PI**  
Grant Number: MOST 107-2314-B-039-068-MY2 (NT\$ 2,100,000)
- 2018.11-2019.07 China Medical University (CMU)  
*Therapeutic Efficacy and Mechanism Investigation for Imipramine in Non-small Cell Lung Cancer.*  
**Role: PI**  
Grant Number: CMU107-N-26 (NT\$ 200,000)
- 2019.01-2019.12 Drug Development Center, China Medical University" from The Featured Areas Research Center Program within the framework of the Higher Education Sprout Project by the Ministry of Education (MOE) in Taiwan.  
**Role: co-PI**  
(NT\$ 1,000,000)
- 2019.06-2020.07 China Medical University (CMU)  
Delivery of miRNA124 or miRNA145 and TRAIL or PD-1 dual expression vector by Wharton's Jelly mesenchymal stem cells to suppress glioblastoma progression  
**Role: PI**  
Grant Number: CMU107-TU-05 (NT\$ 900,000)
- 2019.08-2022.07 Ministry of Science and Technology (MOST)  
Delivery of miRNA124 or miRNA145 and PD-1 dual expression vector to glioblastoma by Wharton's Jelly mesenchymal stem cells suppress tumor progression  
**Role: PI**  
Grant Number: MOST 108-2314-B-039-007-MY3 (NT\$ 4,200,000)

- 2019.09-2020.11 China Medical University-MOST match fund  
Delivery of miRNA124 or miRNA145 and PD-1 dual expression vector to glioblastoma by Wharton's Jelly mesenchymal stem cells suppress tumor progression  
**Role: PI**  
Grant Number: CMU108-MF-23 (NT\$ 300,000)
- 2019.10-2020.07 China Medical University  
**Role: PI**  
Therapeutic efficacy and mechanism investigation for PARP-1 inhibitor combined temozolomide in glioblastoma  
Grant Number: CMU108-N-06 (NT\$ 230,000)
- 2020.01-2020.12 Drug Development Center, China Medical University" from The Featured Areas Research Center Program within the framework of the Higher Education Sprout Project by the Ministry of Education (MOE) in Taiwan.  
**Role: co-PI** (NT\$ 850,000)
- 2020.08-2022.07 Ministry of Science and Technology (MOST)- **International collaboration grant**  
**Role: PI**  
*Human induced neural stem cells with programmed cell death protein-1-thymidine kinase expressed for glioblastoma therapy*  
Grant Number: MOST 108-2314-B-039-007-MY3 ADD ON (NT\$ 560,000)
- 2020.08-2023.07 Ministry of Science and Technology (MOST)  
*Evaluate therapeutic efficacy and mechanism of combination of poly ADP-ribose polymerase inhibitor with temozolomide, radiation or immune checkpoint inhibitor on glioblastoma*  
**Role: PI**  
Grant Number: MOST 109-2314-B-039 -021-MY3 (NT\$ 3,363,000)
- 2020.08-2021.07 Ministry of Science and Technology (MOST)  
*Evaluate therapeutic efficacy and underlying mechanism of lenvatinib combined radiation on hepatocellular carcinoma*  
Grant Number: MOST 109-2635-B-010-002  
**Role: co-PI** (NT\$ 650,000)
- 2020.08-2021.07 Ministry of Science and Technology (MOST)  
*Evaluation of therapeutic efficacy and underlying mechanism of regorafenib combine immune check point inhibitor*  
Grant Number: MOST 109-2314-B-A19-001  
**Role: co-PI** (NT\$ 1,020,000)

- 2020.08-2021.07 Ministry of Science and Technology (MOST)  
*Exploring Treatment Efficacy and Mechanism on Combining Immune Checkpoint Inhibitors PDL-1 and Targeted Therapy Drug Regorafenib of Glioblastoma*  
Grant Number: MOST 109-2314-B-758-001  
**Role: co-PI (NT\$ 960,000)**
- 2021.08-2022.07 Ministry of Science and Technology (MOST)  
*Evaluation of anticancer efficacy and mechanism of magnolol combined with immune checkpoint inhibitors in hepatocellular carcinoma*  
Grant Number: MOST 110-2314-B-281-012  
**Role: co-PI (NT\$ 930,000)**
- 2022.05-2023.04 Ministry of Science and Technology (MOST)  
*Allogeneic cell-based immunotherapy: using dual gene engineered mesenchymal stem cell and mRNA modified CAR gamma-delta T for precision solid tumor treatment*  
Grant Number: MOST 111-2321-B-039-006-  
**Role: co-PI (NT\$ 14,000,000)**
- 2022.08-2025.07 Ministry of Science and Technology (MOST)  
Ongoing *Investigate treatment efficacy and Src-mediated signaling transduction of lenvatinib combined with radiotherapy and immune checkpoint inhibitor on Hepatocellular carcinoma*  
Grant Number: MOST 111-2314-B-A49-039-MY3  
**Role: co-PI (NT\$ 3,240,000)**
- 2022.08-2025.07 Ministry of Science and Technology (MOST)  
Ongoing *To explore the biological significance and treatment strategy for extranodal extension in oral cancer*  
Grant Number: MOST 111-2314-B-A49-026-MY3  
**Role: co-PI (NT\$ 4,050,000)**
- 2023.05-2024.04 National Science and Technology Council (NSTC)  
Ongoing *Allogeneic cell-based immunotherapy: using dual gene engineered mesenchymal stem cell and mRNA modified CAR gamma-delta T for precision solid tumor treatment*  
Grant Number: NSTC 112-2321-B-039-008  
**Role: co-PI (NT\$ 15,600,000)**
- 2023.07-2026.07 National Science and Technology Council (NSTC)  
Ongoing *Elucidate whether radio sensitization effect of lenvatinib is associates with inactivation of CXCL13/CXCR5/NF- $\kappa$ B in non-small cell lung cancer*  
Grant Number: NSTC 112-2314-B-442-002-MY3  
**Role: co-PI (NT\$ 3,960,000)**

- 2023.07-2026.07 National Science and Technology Council (NSTC)  
Ongoing *The investigation of inhibitory efficacy and mechanism of quetiapine combines with radiation, lenvatinib, or immune checkpoint inhibitor in hepatocellular carcinoma*  
Grant Number: NSTC 112-2314-B-758-001-MY3  
**Role: co-PI (NT\$ 3,480,000)**
- 2023.07-2026.07 National Science and Technology Council (NSTC)  
Ongoing *Evaluate immuno-sensitization and radio-sensitization potential by long-acting interleukin-15 with albumin binding domain*  
Grant Number: NSTC 112-2314-B-039-063-MY3  
**Role: PI (NT\$ 3,750,000)**
- 2023.09-2025.08 National Science and Technology Council (NSTC)  
Ongoing *Developing a syngeneic multi-mutation brain tumor organoid platform for selecting immunotherapy and combination therapy*  
Grant Number: NSCT 112-2926-I-039-501-G  
**Role: PI (NT\$ 2,190,000)**

- **WORKING IN PROGRESS (MANUSCRIPTS SUBMITTED)**

1. **Hsu FT\***, Chen YZ, Chin YC, Chang LC, Chiang SC, Yang LX, Liu HS, Yueh PF, Jeng LB, Shyu WC, Hu SH, Chiang IT, Liu YC, Chiu YC, Su WP\*, Huang CC\*. Sugar-based drug-free systemic immunoregulating and imageable nanoparticles promote the efficacy of immune checkpoint inhibitors in aggressive cancer. **Nature Nanotechnology (under revised)**.
2. Yueh PF, Chiang IT, Liu YC, Wong RCB, Chen CY, Hsu BK, Jeng LB, Shyu WC, **Hsu FT**. Innovative Dual-Gene Delivery System Utilizing miR-124 and PD-1 through Umbilical Cord Mesenchymal Stem Cells and Exosomes for Glioblastoma Therapy. (2023/12 submitted to neuro-oncology)

- PUBLICATIONS

1. Li CY, Chen HC, Liao CY, **Hsu FT**, Hung KC, Liu KC, Chen JC, Ku MC (2023). Lenvatinib suppresses protein kinase B signaling and induces apoptosis in osteosarcoma cells (2023.12 accepted).
2. Peng PH, Chen JL, Wu HH, Yang WH, Lin LJ, Lai CY, Chang JS, Syu JL, Wu HT, **Hsu FT\***, Cheng WC\*, Hsu KW\* (2023): Interplay between lncRNA RP11-367G18.1 variant 2 and YY1 plays a vital role in hypoxia-mediated gene expression and tumorigenesis. *Cancer Cell International* 23(1):266. doi: 10.1186/s12935-023-03067-6

3. Tsai PH, Liu YC, Li TS, **Hsu FT**, Lee YH, Chiang IT, Chang YC and Lee CH (2023): Clinical Effect of Moisturized Skin Care on Radiation Dermatitis of Head and Neck Cancer. *In Vivo*. 37(6):2776-2785. doi: 10.21873/invivo.13389.
4. Chiang CY, Huang MC, Tsai SC, **Hsu FT**, Liao TL, Yu JH, Lin TH, Huang HH and Liao PA (2023): Humanized PD-1 Knock-In Mice Reveal Nivolumab's Inhibitory Effects on Glioblastoma Tumor Progression In Vivo. *In Vivo*. 37(5): 1991–2000. doi: 10.21873/invivo.13296
5. Hsu LC, Lin CN, **Hsu FT**, Chen YT, Chang PL, Hsieh LL, Wang HY, Lin KH, Hsiao HC and Tu HF (2023): Imipramine Suppresses Tumor Growth and Induces Apoptosis in Oral Squamous Cell Carcinoma: Targeting Multiple Processes and Signaling Pathways. *Anticancer Res*. 43(9):3987-3996. doi: 10.21873/anticancerres.16586.
6. **Hsu FT**, Liu WL, Lee SR, Jeng LB, Chen JH (2023): Unveiling nature's potential weapon: Magnolol's role in combating bladder cancer by upregulating the miR-124 and inactivating PKC- $\delta$ /ERK axis. *Phytomedicine* 119, 154947. doi: 10.1016/j.phymed.2023.154947
7. Yang CJ, Tan ZL, Yang JD, **Hsu FT**, Chiang CH (2023): Fluoxetine inactivates STAT3/NF- $\kappa$ B signaling and promotes the sensitivity to cisplatin in bladder cancer. *Biomedicine & Pharmacotherapy* 164:114962. doi: 10.1016/j.biopha.2023.114962
8. Chen SK, Lee W, Li YC, **Hsu FT** and, Chen WT (2023): Imipramine Induces Apoptosis and Inhibits the Metastatic Potential of Triple-negative Breast Cancer Cells. *Anticancer Research* 43(7):2985-2994. doi: 10.21873/anticancerres.16469.
9. Huang HS, Lawal B, Chiang IT, Weng YS, Kuo YC, Liu YC, **Hsu FT** (2023): A Novel Isotope-labeled Small Molecule Probe CC12 for Anti-glioma via Suppressing LYN-mediated Progression and Activating Apoptosis Pathways. *International Journal of Biological Sciences* 19(10):3209-3225. doi: 10.7150/ijbs.82266.
10. Weng YS, Chiang IT, Tsai JJ, Liu YC, **Hsu FT** (2023): Letter-to-editor, In Reply to Yeh et al.

*International Journal of Radiation Oncology, Biology, Physics* 116(3): 696-697.

11. Liu YC, Lin CH, Chen KT, Lai DW, **Hsu FT** (2023): Inactivation of EGFR/ERK/NF- $\kappa$ B signalling associates with radiosensitizing effect of 18 $\beta$ -glycyrrhetic acid on progression of hepatocellular carcinoma. *Journal of Cellular and Molecular Medicine* 27(11):1539-1549. doi: 10.1111/jcmm.17760.
12. Li YC, Wong CN, **Hsu FT**, Chen JH, Yang CC, Liu HH, Chen WL, Weng YS (2023): Accessing Apoptosis Induction and Metastasis Inhibition Effect of Magnolol on Triple Negative Breast Cancer In Vitro. *In Vivo* 37(3):1028-1036. doi: 10.21873/invivo.13177.
13. Chen WT, Tsai YH, Tan P, **Hsu FT**, Wang HM, Lin WC, Lin FH, Wu CT (2023): Fluoxetine Inhibits STAT3-mediated Survival and Invasion of Osteosarcoma Cells. *Anticancer Research* 43(3):1193-1199. doi: 10.21873/anticanres.16265.
14. Hsu LC, Ku HJ, Lin KH, Lee KC, **Hsu FT** (2023): Amentoflavone Induces Caspase-dependent/-independent Apoptosis and Dysregulate Cyclin-dependent Kinase Mediated Cell Cycle in Colorectal Cancer *in vitro* and *in vivo*. *Environmental Toxicology* 38(5):1078-1089. doi: 10.1002/tox.23749
15. Hsu LC, Kuo CY, **Hsu FT**, Chang HF and Ou JJ (2023): Hyperforin Suppresses Oncogenic Kinases and Induces Apoptosis in Colorectal Cancer Cells. *In Vivo* 37(1):182-189. doi: 10.21873/invivo.13067.
16. Weng YS, Chiang IT, Tsai JJ, Liu YC, **Hsu FT** (2023): Lenvatinib synergistically promotes radiotherapy on hepatocellular carcinoma via inhibiting Src/STAT3/NF- $\kappa$ B mediated epithelial-mesenchymal transition and metastasis. *International Journal of Radiation Oncology, Biology, Physics* S0360-3016(22)03352-1. doi: 10.1016/j.ijrobp.2022.09.060.
17. Lu KW, Lu TJ, Chueh FS, Lai KC, Hsia TC, Peng SF, Cheng CC and Chou YC\*, **Hsu FT\*** (2022): Allyl Isothiocyanate (AITC) Induces Apoptotic Cell Death In Vitro and Exhibits Anti-Tumor Activity in a Human Glioblastoma GBM8401/luc2 Model. *International Journal of Molecular Sciences* 23(18):10411. doi: 10.3390/ijms231810411
18. Chin YC, Yang LX, **Hsu FT\***, Hsu CW, Chang TW, Chen HY, Chen YC, Chia C, Hung CC\*, Lao MY\* (2022): Iron chlorophyll-guided Fe<sub>3</sub>O<sub>4</sub> nano-assembly and adoption of an advanced ferroptosis strategy to enhance photodynamic immunotherapy on bladder cancer. *Journal of Nanobiotechnology*. 11;20(1):373. doi: 10.1186/s12951-022-01575-7.

19. Li CH, Ku MC, Lee KC, Yuen PF, **Hsu FT**, Lin RF, Yang CC, Wang WC, Chen JH, Hsu LC, Lee YH (2022): Magnolol Suppresses ERK/NF- $\kappa$ B Signaling and Triggers Apoptosis Through Extrinsic/Intrinsic Pathways in Osteosarcoma. *Anticancer Research* 42(9):4403-4410.
20. Lee YC, Weng YS, Wang HY, **Hsu FT**, Chueh FS, Wu JY, Chen WL, Chen JH (2022): Magnolol Induces Apoptosis Through Extrinsic/intrinsic Pathways and Attenuates NF- $\kappa$ B/STAT3 Signaling in Non-small-cell Lung Cancer Cells. *Anticancer Research* 42(8):3825-3833. doi: 10.21873/anticancer.15873.
21. Liao PA, Chu PY, Tan ZL, **Hsu FT**, Lee YC, Wu HJ (2022): STAT3 Inactivation and Induction of Apoptosis Associate With Fluoxetine-inhibited Epithelial-mesenchymal Transition and Growth of Triple-negative Breast Cancer In Vivo. *Anticancer Research* 42(8):3807-3814. doi: 10.21873/anticancer.15871.
22. Sui CM, Li CH, Huang MC, Yueh PF, **Hsu FT**, Lin RF, Hsu LC (2022): Reinforcement of Sorafenib Anti-osteosarcoma Effect by Amentoflavone is Associated With the Induction of Apoptosis and Inactivation of ERK/NF- $\kappa$ B. *In Vivo* 36(3):1136-1143. doi: 10.21873/invivo.12812.
23. Yang CJ, Wu MH, Tsai JJ, **Hsu FT**, Hsia TC, Liu KC, Kuo YC (2022): Inactivation of AKT/ERK Signaling and Induction of Apoptosis Are Associated With Amentoflavone Sensitization of Hepatocellular Carcinoma to Lenvatinib. *Anticancer Research* 42(5):2495-2505. doi: 10.21873/anticancer.15728.
24. Chiang IT, Liu YC, Liu HS, Ahmed Ali AA, Chou SY, Hsu TI, **Hsu FT** (2022): Regorafenib Reverses Temozolomide-induced CXCL12/CXCR4 Signaling and Triggers Apoptosis Mechanism in Glioblastoma. *Neurotherapeutics* 19(2):616-634. doi: 10.1007/s13311-022-01194-y.
25. **Hsu FT\***, Tsai CL\*, Chiang IT\*, Lan KH, Yueh PF, Liang WY, Lin CS, Chao Y, Lan KL (2022): The Synergistic Effect of Abraxane that Combines Human IL15 Fused with an Albumin-binding Domain on Murine Models of Pancreatic Ductal Adenocarcinoma. *Journal of Cellular and Molecular Medicine* 26(7):1955-1968. doi: 10.1111/jcmm.17220.
26. Chiang IT, Lee YH, Tan ZL, **Hsu FT\***, Tu HF\* (2022): Regorafenib Enhances Antitumor Immune Efficacy of Anti-PD-L1 Immunotherapy on Oral Squamous Cell Carcinoma. *Biomedicine & Pharmacotherapy* 147:112661
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- **LANGUAGE SKILLS**

1. Mandarin Chinese
2. American English

- **HONORS & AWARDS**

1. The selected novitiate student at Center for Functional Onco-imaging, University of California-Irvine, Irvine, Orange County, California, USA, 2008
2. The outstanding poster award in 16th Taiwan Joint Cancer Conference, 2011
3. The scholarship award granted from National Yang-Ming University, 2011-2012
4. The selected oral speaker in World Molecular Imaging Congress, San Diego, USA, 2011
5. The selected student travel award in World Molecular Imaging Congress, San Diego, USA, 2011
6. The selected student travel award in World Molecular Imaging Congress, Dublin, Ireland, 2012
7. The first place poster award in Taiwan International Symposium for Molecular Imaging, 2012
8. The selected student travel award in World Molecular Imaging Congress, Savannah, USA, 2013
9. The outstanding speaker award in 9<sup>th</sup> Symposium of Medical Imaging and Radiological Sciences, 2013
10. Member of the Phi Tau Phi Scholastic Honor Society, 2014
11. The outstanding poster award in National Yang-Ming University Research Conference, 2014
12. The silver medal winner of Research Conference in Taipei Medical University Hospital, 2014 The selected oral abstract in International Society for Magnetic Resonance in Medicine, Singapore, 2016
13. The selected young researcher travel award in International Society for Magnetic Resonance in Medicine, Singapore, 2016
14. The selected oral abstract in International Society for Radiological Society of North America 2017
15. The excellent researcher support from MOST, 2017 (MOST 106-2924-I-038- 001-ESR)
16. The excellent researcher support from MOST, 2018 (MOST 107-2924-I-038-001-ESR)
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18. The excellent teaching material award 2020, China Medical University (Biomedical imaging: principals & applications)
19. The excellent researcher support from MOST, 2020 (MOST109-2821-C-039-001-ES)
20. The excellent researcher support from MOST, 2021 (MOST111-2821-C-039-001-ES)
- 21. The excellent assistant professor award (2017-2020), China Medical University (Top 2%).**
- 22. 2021-18th National Intervention Award in the Business Category**
- 23. The excellent associate professor award (2020-2023), China Medical University (Top 2%).**