# **Nephrology Laboratory**

# **Lab Introduction**

The main researches in our laboratory are as follow:

1. Neutrophil function analyses in PD-related peritonitis

Various functions of neutrophils, including neutrophil extracellular trap formation, reactive
oxygen species production, and phagocytosis, are evaluated under different PD solutions.
Besides, by analyzing neutrophil functions from PD dialysate effluents from patients with
PD-related peritonitis, we try to identify neutrophil-related factors which correlate with
prognosis of PD-related peritonitis.

 Neutrophil function analyses in head and neck squamous cell carcinoma (HNSCC) By cooperation with otorhinolaryngology in E-Da Hospital, the immunosuppressive neutrophils in HNSCC are investigated.

# **Principal Investigator:**

### Ching-Fang Wu, MD, PhD.

Assistant Professor

School of Medicine, I-Shou University, Kaohsiung, Taiwan

Attending nephrologist

E-Da Cancer Hospital, Kaohsiung, Taiwan

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### **Educations:**

### PhD

Molecular medicine program, Hannover Medical University, Hannover, Germany Medicine

National Taiwan University School of Medicine, Taipei, Taiwan

### **Academic Experiences:**

<b>Duration</b>	Department	<b>Position</b>
2017/02~2020/07	School of Medicine for International Students,	Adjunct assistant
	I-Shou University, Kaohsiung.	Professor
2020/08~	School of Medicine, I-Shou University, Kaohsiung.	Assistant Professor

## **Team Members:**

#### **Collaborating Investigators:**

Hung-Hsiang Liou, MD Shih-Yuan Hung. MD

Assistants:

Yu-An Liu, M. Sc. (2022/07~present)

# **Techniques & Equipments**

#### A. Cell & tissue culture:

- Laminar flow
- CO<sub>2</sub> incubator
- Inverted phase contrast microscope
- Vacuum suction pump
- Magnetic cell sorting (MACS) system

#### B. General purpose equipments:

Centrifuge Microcentrifuge Digital dry bath Thermostatic water bath Magnetic stirrer

#### C. Sample storage devices:

4°C, -20°C, -80°C refrigerators, and liquid nitrogen tank (35 L)

#### D. Frequently used techniques:

Cell and tissue culture RT-PCR, qPCR Western blotting Flow cytometry ELISA Immunofluorescent stain

# **Research Projects (within 3 years)**

Project titles	PI	Source	Duration
To investigate the mechanism for Klebsiella pneumoniae-directing neutrophil N2 polarization	Wu CF	EDCH	2024/2~2025/1
Exosomes as a possible mediator for endoplasmic reticulum stressed oral squamous cell carcinoma to induce immunosuppression of neutrophils	Wu CF	EDCH	2023/1~2023/12
Modulation of neutrophil extracellular traps as a potential adjuvant therapy against peritoneal dialysis-related peritonitis	Wu CF	EDA	2022/2~2023/1
The impact of telemonitoring on compliance and outcomes of patients undergoing automated peritoneal dialysis with SHARESOURCE	Hung SY	Baxter	2020/3~2022/2
The potential of LOX-1 as a surface marker for immunosuppressive neutrophils in head and neck cancer (EDPJ108044)	Wu CF	NSC	2019/8~2021/7

### **Selected Publications (within 3 years):**

- Chang MY, Chi PJ, Wang HH, Lee YC, Ho LC, <u>Wu CF</u>, Chen CY, Liou HH, Hung SY. Evaluation of the Impact of Remote Monitoring Using the Sharesource Connectivity Platform on Adherence to Automated Peritoneal Dialysis in 51 Patients. *Med Sci Monit* (2023 Apr). 6 (29): e939523.
- 2. Lin HC, Wang CC, <u>Wu CF</u>, Lin YH, Lee WC, Chen PJ, Chang YU, Su YC. Hinokitiol inhibits the viability of oral squamous carcinoma cells by inducing apoptosis and autophagy. *Anticancer Res* (2023 Mar) 43(3): 1167-1173.
- Wang HH, Wu JL, Chang MY, Wu HM, Ho LC, Chi PJ, <u>Wu CF</u>, Lee WC, Liou HH, Hung SY, Lee YC. Antibody Response and Adverse Events of AZD1222 COVID-19 Vaccination in Patients Undergoing Dialysis: A Prospective Cohort Study. *Vaccines* (*Basel*) (2022 Sep). 10 (9): 1460
- 4. <u>Wu CF</u>, Hung TT, Su YC, Chen PJ, Lai KH, Wang CC. Endoplasmic Reticulum Stress of Oral Squamous Cell Carcinoma Induces Immunosuppression of Neutrophils. *Frontiers in Oncology* (2022 Mar) 12: 818192.
- Hung SY, Lin TM, Liou HH, Chen CY, Liao WT, Wang HH, Ho LC, <u>Wu CF</u>, Lee YC, Chang MY. Association between ADAMTS13 deficiency and cardiovascular events in chronic hemodialysis patients. *Sci Rep* (2021 Nov). 11 (1): 22816.
- 6. <u>Wu CF</u>, Liou HH (co-first), Kuo CC, Tsai MH, Chang MY, Lee YC, Lin TM, Hung SY.

The Association of Urinary Sclerostin and Renal Magnesium Handling in Type 2 Diabetic Patients with Chronic Kidney Disease. *Kidney Blood Press Res* (2021 Aug). 46 (4): 514-522.

 Chiu YL, Lin WC, Shu KH, Fang YW, Chang FC, Chou YH, <u>Wu CF</u>, Chiang WC, Lin SL, Chen YM, Wu MS. Alternative Complement Pathway Is Activated and Associated with Galactose-Deficient IgA1 Antibody in IgA Nephropathy Patients. Front Immunol (2021 Jun) 10: 12: 638309.