



**Dr. Tsong-Long Hwang**

**Position :**

Dean and Distinguished Professor, College of Human Ecology, Chang Gung University of Science and Technology

Professor, Graduate Institute of Natural Products, College of Medicine, Chang Gung University

**Laboratory :** Cell Pharmacology

**Degree :** Ph.D.

**Graduated from :** National Taiwan University

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**Research Interests**

Neutrophilic Inflammation, Innate immunity, signal transduction, Protein kinase, Drug research and development

**Research Summary**

Inflammatory responses are important in host defense, however dysregulated inflammation results in tissue damage. Activated neutrophils and monocytes play a

critical role in a variety of acute and chronic inflammatory diseases. The overall goals of work in our laboratory are to understand the molecular and cellular mechanisms in neutrophil and monocyte activation and to study the pharmacological actions of bioactive compounds for developing better therapeutic strategies in immune-mediated inflammatory disorders.

### Board Certification / Professional Affiliations

The Pharmacological Society in Taiwan

The Chinese Society of Immunology

The Society of Chinese Natural Medicine

Society for Free Radical Research-Taiwan

The Pharmaceutical Society of Taiwan

Toxicology Society of Taiwan

American Chemical Society

The American Association of Immunologist

Society for Redox Biology and Medicine

### Ongoing Projects

1. Anti-inflammatory effects of chemical components from *Aspergillus fumigatus* in human neutrophils
2. To explore the mechanism of lupus inflammasome activation and its corresponding anti-inflammatory drug development
3. Targeting neutrophil-driven inflammation for treating acute respiratory distress syndrome and psoriasis
4. Development of novel natural product as potential treatment for Alzheimer's disease

### 10 Selected Publications (> 350 Papers)

ORCID iD: <http://orcid.org/0000-0002-5780-3977>



1. Liu FC, Yu HP, Chen PJ, Yang HW, Chang SH, Tzeng CC, Cheng WJ, Chen YR, Chen YL\*, Hwang TL\*. A novel NOX2 inhibitor attenuates human neutrophil

- oxidative stress and ameliorates inflammatory arthritis in mice. *Redox Biol.* 2019 Jul 10;26:101273.
2. Chen PJ, Ko IL, Lee CL, Hu HC, Chang FR, Wu YC, Leu YL, Wu CC, Lin CY, Pan CY, Tsai YF, Hwang TL\*. Targeting allosteric site of AKT by 5,7-dimethoxy-1,4-phenanthrenequinone suppresses neutrophilic inflammation. *EBioMedicine.* 2019 Feb;40:528-540.
  3. Lin CY, Hsu CY, Elzoghby AO, Alalaiwe A, Hwang TL\*, Fang JY\*. Oleic acid as the active agent and lipid matrix in cilomilast-loaded nanocarriers to assist PDE4 inhibition of activated neutrophils for mitigating psoriasis-like lesions. *Acta Biomater.* 2019 May;90:350-361.
  4. Chen CY, Tsai YF, Huang WJ, Chang SH, Hwang TL\*. Propofol inhibits endogenous formyl peptide-induced neutrophil activation and alleviates lung injury. *Free Radic Biol Med.* 2018 Oct 9. pii: S0891-5849(18)31167-5.
  5. Yang SC, Chen PJ, Chang SH, Weng YT, Chang FR, Chang KY, Chen CY, Kao TI, Hwang TL\*. Luteolin attenuates neutrophilic oxidative stress and inflammatory arthritis by inhibiting Raf1 activity. *Biochem Pharmacol.* 2018 Jun 6;154:384-96.
  6. Tsai YF, Chu TC, Chang WY, Wu YC, Chang FR, Yang SC, Wu TY, Hsu YM, Chen CY, Chang SH, Hwang TL\*. 6-Hydroxy-5,7-dimethoxy-flavone suppresses the neutrophil respiratory burst via selective PDE4 inhibition to ameliorate acute lung injury. *Free Radic Biol Med.* 2017 Mar 3;106:379-92.
  7. Yang SC, Chang SH, Hsieh PW, Huang YT, Ho CM, Tsai YF, Hwang TL\*. Dipeptide HCH6-1 inhibits neutrophil activation and protects against acute lung injury by blocking FPR1. *Free Radic Biol Med.* 2017 Feb 21;106:254-69.
  8. Chen CY, Yang CH, Tsai YF, Liaw CC, Chang WY, Hwang TL\*. Ugonin U stimulates NLRP3 inflammasome activation and enhances inflammasome-mediated pathogen clearance. *Redox Biol.* 2016 Dec 18;11:263-74.
  9. Tsai YF, Yu HP, Chung PJ, Leu YL, Kuo LM, Chen CY, Hwang TL\*. Osthol attenuates neutrophilic oxidative stress and hemorrhagic shock-induced lung injury via inhibition of phosphodiesterase 4. *Free Radic Biol Med.* 2015 Dec;89:387-400.
  10. Chen CY, Liaw CC, Chen YH, Chang WY, Chung PJ, Hwang TL\*. A novel immunomodulatory effect of ugonin U in human neutrophils via stimulation of

## Patents

1. **黃聰龍**、謝珮文、余黃平。苯并雜氧嗪酮衍生物，其製備方法以及包含有此等衍生物的藥學組成物。中華民國發明第 I 419884 號；專利權期間：20131221-20300623。
2. Pei-Wen Hsieh, **Tsong-Long Hwang**, Wen-Hui Wang, Ting-Yi Wang. Oxime-based compound, pharmaceutical composition containing the same and method for preparing the same. US 9,073,833 B1; Date of patent: Jul. 7, 2015.
3. 謝珮文、**黃聰龍**、王雯慧、王婷儀。2-胺基苯甲醛肟衍生物及其製備方法與用途。中華民國發明第 I 508938 號；專利權期間：20151121-20340123。
4. 謝珮文、**黃聰龍**、王雯慧、王婷儀。オキシム系化合物、それを含む医薬組成物及びその調製方法。日本特許證特許第 5890512 號；專利權期間：20160226 -20341211。
5. **黃聰龍**、謝珮文、黃吟婷、洪志豪。FPR1 拮抗劑的衍生物及其用途。中華民國發明第 I537251 號；專利權期間：20160611 -20331008。
6. 陳金銓、呂彥禮、**黃聰龍**、方嘉佑、潘台龍。哺乳類 SIRT1 的活化劑。中華民國發明第 I556818 號；專利權期間：20161111 -20350806。
7. **Tsong-Long Hwang**, Pei-Wen Hsieh, Yin-Ting Huang, Chih-Hao Hung. FPR1 antagonist derivatives and use thereof. US 9,593,144 B2; Date of patent: Mar. 14, 2017.
8. **黃聰龍**、蔡永豐、陳俊宇、郭亮鋒、鄭源斌、王至欣、張芳榮、吳永昌。第 I 型甲醯肟肽受體拮抗劑及其用途。中華民國發明第 I606828 號；專利權期間：20171201 -20361228。
9. **Tsong-Long Hwang**, Yung-Fong Tsai, Chun-Yu Chen, Liang-Mou Kuo, Yuan-Bin Cheng, Chih-Hsin Wang, Fang-Rong Chang, Yang-Chang Wu. Formyl peptide receptor 1 antagonists and uses thereof. US 9,895,329 B1; Date of patent: Feb. 20, 2018.
10. **黃聰龍**、謝珮文、黃吟婷、洪志豪。FPR1 拮抗劑的衍生物及其用途(一)。中華民國發明第 I 614021 號；專利權期間：20180211 -20331008。
11. 謝珮文、**黃聰龍**、王雯慧、王婷儀。2-胺基苯甲醛肟衍生物及其製備方法與用途。中華人民共和國證書號第 2451449 號；專利權期間：20140512-20340511。
12. **黃聰龍**、陳義龍、曾誠齊、曾志華。嗜中性白血球發炎抑制劑及其用途。中華民國發明第 I 680973 號；專利權期間：20200101 -20381108。

## Honors / Awards

2019 Outstanding Merit Award, Wang Ming-Ning Memorial Foundation, Taiwan

- 2019 Academic Achievement Award, Chang Gung University of Science and Technology
- 2018 The 15<sup>th</sup> National Innovation Award, Taiwan
- 2018 Academic Achievement Award, Chang Gung University of Science and Technology
- 2018 Industry-academic Cooperation and Development Achievement Award, Chang Gung University of Science and Technology
- 2017-2019 President, The Society of Chinese Natural Medicine, Taiwan
- 2017-2019 Discipline Coordinator, Division of Pharmacy and Chinese Medicine, Department of Life Sciences, Ministry of Science and Technology, Taiwan
- 2017 Research and Development Paper Award, Formosa Plastics Group, Taiwan
- 2016 Academic Achievement Award, Chang Gung University of Science and Technology
- 2016 Industry-academic Cooperation and Development Achievement Award, Chang Gung University of Science and Technology
- 2015-2021 Director, Society for Free Radical Research-Taiwan
- 2015 Outstanding Alumni Award, School of Pharmacy, Kaohsiung Medical University
- 2014-2019 Director, The Society of Chinese Natural Medicine, Taiwan
- 2014 Outstanding Paper Award, The Chinese Society of Immunology, Taiwan
- 2014 Excellent Teaching Award, Chang Gung University
- 2014 Excellent Poster Award, Symposium on Natural Products, Taiwan
- 2013 Excellent Poster Award, Biennial Meeting of Society for Free Radical Research Asia, Taiwan

2012 Research and Development Paper Award, Formosa Plastics Group, Taiwan

2011-2016 Outstanding Young Scholar Research Projects, Department of Life Sciences, Ministry of Science and Technology, Taiwan

2007 Wu Ta-You Memorial Award, National Science Council, Taiwan







# 第29屆王民寧獎

Wang Ming-Ning Memorial Foundation

## 頒獎典禮



喝采

We, 15th  
Innovators

# 國家新創獎頒獎典禮

15th National Innovation Award

