



**Name**

**Shih-Ya Hung**

**Current Positions**

**Associate Professor**

Graduate Institute of Acupuncture Science, China Medical University

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### Education

Bachelor of Science/Department of Biological Science, National Sun Yet-Sen University, Taiwan

Master Program/ Department of Biological Science, National Sun Yet-Sen University, Taiwan

PhD Program/Graduate Institute of Pharmacology, National Taiwan University, Taiwan

### Expertise

Postdoctoral Scholar, Biochemistry and Molecular Medicine, University of California, Davis, USA

Assistant Professor, Graduate Institute of Integrated Medicine, China Medical University, Taiwan

Associate Professor, Graduate Institute of Integrated Medicine, China Medical University, Taiwan

Associate Professor, Graduate Institute of Acupuncture Science, China Medical University, Taiwan

### Research Interests

I am an associate professor at the Graduate Institute of Acupuncture Science. I love to discuss any question with my students and help them solve all problems and get their Master or Ph.D. degrees at China Medical University. My laboratory mainly focuses on disease animal models, new drug development, selective autophagy in cancer treatment, Parkinson's disease treatment, and A $\beta$  clearance in Alzheimer's disease. We have published high quality and high impact factor SCI articles as follows (Selected Publications).

### Selected Grants:

Project Period	Project Title	Role/Position	Duration of Stay	Funding Source
One-year	Analysis the therapeutic efficacy and mechanism of the active compound derived from Ligustrum seed in Parkinson's Disease: the role of mitophagy	Principal investigator	2020.11.1 ~ 2021.10.31	China Medical University Hospital
One-year	Analysis the regulation mechanism of a first line drug for Alzheimer's disease treatment in neuronal $\alpha$ 7nAChR expression	Principal investigator	2020.11.2 ~ 2021.7.31	China Medical University
One-year	Analysis the therapeutic efficacy and mechanism of the active compound derived from traditional Chinese medicine in Parkinson's Disease	Principal investigator	2020.9.8 ~ 2021.7.31	China Medical University
One-year	Development of drug screening platforms for $\alpha$ 7nAChR expression	Principal investigator	2019.9.9 ~ 2020.7.31	China Medical University
Three-year	Exploring the neuroprotective mechanism and drug combination therapy of galantamine in Alzheimer's disease treatment	Principal investigator	2019.8.1 ~ 2022.7.31	Ministry of Science and Technology

Three-year	開發局部塗抹之神經保護劑	Co-Principal investigator	2018.8.1 ~ 2022.7.31	Ministry of Science and Technology
One-year	Analysis the mechanism of electroacupuncture on brain autophagy activation for the treatment of neurodegenerative disorders: the Parkinson's disease model	Co-Principal investigator	2019.8.1 ~ 2020.6.30	China Medical University Hospital
One-year	Evaluating the neuroprotective agent-ginsenoside Rb1 in mitophagy activation by using models of mitochondrial dysfunction	Principal investigator	2018.8.1 ~ 2019.7.31	China Medical University Hospital
One-year	Exploring the mechanism of electroacupuncture and celastrol in the treatment of Parkinson's disease: the role of autophagy	Principal investigator	2018.08.1 ~ 2019.7.31	Ministry of Science and Technology
One-year	針灸對於神經退化疾病之臨床療效與機轉研究	Co-principal investigator	2018.1.1 ~ 2019.12.31	Ministry Of Education
One-year	Study oleonic acid in mitophagic activation using Parkinson disease models	Principal investigator	2017.8.1 ~ 2018.7.31	China Medical University Hospital
One-year	Using LC3 overexpression to treat Parkinson's disease and evaluating the therapeutic effect of celastrol	Principal investigator	2016.8.1 ~ 2018.7.31	Ministry of Science and Technology
One-year	微膠細胞抑制劑保護搖頭丸引起神經毒性之研究	Co-principal investigator	2016.8.1 ~ 2017.7.31	Ministry of Science and Technology
One-year	Screening triterpenoids with autophagic activation and neuroprotective effect in the treatment of neurodegenerative disorders	Principal investigator	2016.8.1 ~ 2017.7.31	China Medical University Hospital
One-year	Evaluating the therapeutic value of autophagy activation via LC3 overexpression in Parkinson's disease	Principal investigator	2015.11.6 ~ 2016.7.31	China Medical University
One-year	藉由探索減緩記憶力衰退的機制研發治療阿茲海默症的藥物	Co-principal investigator	2015.8.1 ~ 2016.7.31	Ministry of Science and Technology
One-year	針灸治療帕金森氏症之基礎研究	Co-principal investigator	2015.8.1 ~ 2016.7.31	Ministry of Science and Technology
One-year	Exploring autophagy-related tumor biomarkers in colorectal cancer	Co-principal investigator	2015.8.1 ~ 2016.7.31	Ministry of Science and Technology
One-year	Exploring the mechanism of LC3 overexpression-induced autophagic activation	Principal investigator	2015.8.1 ~ 2016.7.31	China Medical University Hospital
One-year	Explore lncRNA NTF-interaction protein and its function	Principal investigator	2014.11.1 ~ 2015.7.31	China Medical University
One-year	Study on Y-specific lncRNAs in cancer	Principal investigator	2014.8.1 ~ 2015.7.31	Ministry of Science and Technology

One-year	以動物模式探討中草藥改善記憶退化之效果及分子機轉	Co-principal investigator	2014.8.1 ~ 2015.7.31	Ministry of Science and Technology
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### Selected Publications

- Hsu, W.T.; Chen, Y.H.; Yang, H.B.; Lin, J.G.; **Hung, S.Y.** Electroacupuncture Improves Motor Symptoms of Parkinson's Disease and Promotes Neuronal Autophagy Activity in Mouse Brain. *American Journal of Chinese Medicine* **2020**, *48*, 1-19. (IF = 3.682; ranking in integrative & complementary medicine = 4/28 , 14.3%)
- Prasad, E.M.; **Hung, S.Y.** Behavioral Tests in Neurotoxin-induced Animal Models of Parkinson's Disease. *Antioxidants (Basel)* **2020**, *9*, doi:10.3390/antiox9101007 (IF = 5.014; ranking in food science & technology = 10/139 , 7.4%)
- Hung, S.Y.**; Chen, H.C.; Chen, W.T. A Randomized Trial Comparing the Bowel Cleansing Efficacy of Sodium Picosulfate/Magnesium Citrate and Polyethylene Glycol/Bisacodyl (The Bowklean Study). *Scientific Reports* **2020**, *10*, 5604, doi:10.1038/s41598-020-62120-w. (IF = 3.998; ranking in multidisciplinary sciences = 17/71 , 23.9%)
- Lin, M.W.; Lin, C.C.; Chen, Y.H.; Yang, H.B.; **Hung, S.Y.** Celastrol Inhibits Dopaminergic Neuronal Death of Parkinson's Disease through Activating Mitophagy. *Antioxidants (Basel)* **2019**, *9*, doi:10.3390/antiox9010037. (IF = 5.014; ranking in food science & technology = 10/139 , 7.4%)
- Lin, M.W.; Chen, Y.H.; Yang, H.B.; Lin, C.C.; **Hung, S.Y.** Galantamine Inhibits Abeta1-42-Induced Neurotoxicity by Enhancing alpha7nAChR Expression as a Cargo Carrier for LC3 Binding and Abeta1-42 Engulfment During Autophagic Degradation. *Neurotherapeutics* **2020**, *17*, 676-689, doi:10.1007/s13311-019-00803-7. (IF = 6.035; ranking in pharmacology & pharmacy = 18/270 , 6.7%)
- Yang, C.T.; **Hung, S.Y.**; Hsu, S.F.; MacDonald, I.; Lin, J.G.; Luo, S.T.; Lin, P.L.; Chen, Y.H. Inhibiting the LPS-induced enhancement of mEPSC frequency in superficial dorsal horn neurons may serve as an electrophysiological model for alleviating pain. *Scientific Reports* **2019**, *9*, 16032, doi:10.1038/s41598-019-52405-0. (IF = 3.998; ranking in multidisciplinary sciences = 17/71 , 23.9%)
- Lai, I.L.; Chang, Y.S.; Chan, W.L.; Lee, Y.T.; Yen, J.C.; Yang, C.A.; **Hung, S.Y.**; Chang, J.G. Male-Specific Long Noncoding RNA TTTY15 Inhibits Non-Small Cell Lung Cancer Proliferation and Metastasis via TBX4. *International Journal of Molecular Sciences* **2019**, *20*, doi:10.3390/ijms20143473. (IF = 4.556; ranking in biochemistry & molecular biology = 74/297 , 24.9%)
- Yang, C.T.; Lu, G.L.; Hsu, S.F.; MacDonald, I.; Chiou, L.C.; **Hung, S.Y.**; Chen, Y.H. Paeonol promotes hippocampal synaptic transmission: The role of the Kv2.1 potassium channel. *European Journal of Pharmacology* **2018**, *827*, 227-237, doi:10.1016/j.ejphar.2018.03.020. (IF = 3.263; ranking in pharmacology & pharmacy = 96/270 , 35.6%) \*Co-corresponding author
- Lin, J.G.; Lee, Y.C.; Tu, C.H.; MacDonald, I.; Chung, H.Y.; Luo, S.T.; **Hung, S.Y.**; Chen, Y.H. Histamine H1 Receptor Antagonists Facilitate Electroacupuncture Analgesia. *American Journal of Chinese Medicine* **2018**, *46*, 55-68, doi:10.1142/S0192415X18500039. (IF = 3.682; ranking in integrative & complementary medicine = 4/28 , 14.3%) \*Co-corresponding author
- Lee, Y.C.; Lin, C.H.; **Hung, S.Y.**; Chung, H.Y.; Luo, S.T.; MacDonald, I.; Chu, Y.T.; Lin, P.L.; Chen, Y.H. Manual acupuncture relieves bile acid-induced itch in mice: the role of microglia and TNF-alpha. *International Journal of Medical Sciences* **2018**, *15*, 953-960, doi:10.7150/ijms.24146. (IF = 2.523; ranking in medicine, general & internal = 50165 , 30.3%)
- Lin, J.G.; Chen, C.J.; Yang, H.B.; Chen, Y.H.; **Hung, S.Y.** Electroacupuncture Promotes Recovery of Motor Function and Reduces Dopaminergic Neuron Degeneration in Rodent Models of Parkinson's Disease. *International Journal of Molecular Sciences* **2017**, *18*, doi:10.3390/ijms18091846. (IF = 4.556; ranking in biochemistry & molecular biology = 74/297 , 24.9%)
- Hung, S.Y.**; Fu, W.M. Drug candidates in clinical trials for Alzheimer's disease. *Journal of Biomedical Science* **2017**, *24*, 47, doi:10.1186/s12929-017-0355-7. (IF = 5.762; ranking in medicine, research &

*experimental = 17/138 , 12.3%*)

13. Yang, C.T.; Leung, Y.M.; Hsu, S.F.; MacDonald, I.; Wang, M.L.; Lin, J.G.; **Hung, S.Y.**; Chen, Y.H. A comparison of the delayed outward potassium current between the nucleus ambiguus and hippocampus: sensitivity to paeonol. *European Journal of Pharmacology* **2016**, 784, 49-60, doi:10.1016/j.ejphar.2016.04.057. (*IF = 3.263; ranking in pharmacology & pharmacy = 96/270 , 35.6%*) \*Co-corresponding author
14. Lin, M.W.; Huang, Y.B.; Chen, C.L.; Wu, P.C.; Chou, C.Y.; Wu, P.C.; **Hung, S.Y.** A Formulation Study of 5-Aminolevulinic Encapsulated in DPPC Liposomes in Melanoma Treatment. *International Journal of Medical Sciences* **2016**, 13, 483-489, doi:10.7150/ijms.15411. (*IF = 2.523; ranking in medicine, general & internal = 50165 , 30.3%*)
15. Lin, J.G.; Lee, Y.C.; Tseng, C.H.; Chen, D.Y.; Shih, C.Y.; MacDonald, I.; **Hung, S.Y.**; Chen, Y.H. Electroacupuncture inhibits pruritogen-induced spinal microglial activation in mice. *Brain Research* **2016**, 1649, 23-29, doi:10.1016/j.brainres.2016.07.007. (*IF = 2.733; ranking in neuroscience = 156/271 , 57.6%*) \*Co-corresponding author
16. **Hung, S.Y.**; Huang, W.P.; Liou, H.C.; Fu, W.M. LC3 overexpression reduces Abeta neurotoxicity through increasing alpha7nAChR expression and autophagic activity in neurons and mice. *Neuropharmacology* **2015**, 93, 243-251, doi:10.1016/j.neuropharm.2015.02.003. (*IF = 4.431; ranking in pharmacology & pharmacy = 43/270 , 15.9%*)
17. Lin, C.Y.; **Hung, S.Y.**; Chen, H.T.; Tsou, H.K.; Fong, Y.C.; Wang, S.W.; Tang, C.H. Brain-derived neurotrophic factor increases vascular endothelial growth factor expression and enhances angiogenesis in human chondrosarcoma cells. *Biochemical Pharmacology* **2014**, 91, 522-533, doi:10.1016/j.bcp.2014.08.008. (*IF = 4.825; ranking in pharmacology & pharmacy = 25/267 , 9.4%*) \*Co-first author
18. **Hung, S.Y.**; Shih, Y.P.; Chen, M.; Lo, S.H. Up-regulated cten by FGF2 contributes to FGF2-mediated cell migration. *Molecular carcinogenesis* **2014**, 53, 787-792, doi:10.1002/mc.22034. (*IF = 3.825; ranking in biochemistry & molecular biology = 108/297 , 36.4%*)
19. **Hung, S.Y.**; Lin, H.H.; Yeh, K.T.; Chang, J.G. Histone-modifying genes as biomarkers in hepatocellular carcinoma. *International Journal of Clinical and Experimental Pathology* **2014**, 7, 2496-2507. (*IF = 0.205; ranking in oncology=227/229 , 70.8%*)
20. Chien, W.L.; Lee, T.R.; **Hung, S.Y.**; Kang, K.H.; Wu, R.M.; Lee, M.J.; Fu, W.M. Increase of oxidative stress by a novel PINK1 mutation, P209A. *Free Radical Biology & Medicine* **2013**, 58, 160-169, doi:10.1016/j.freeradbiomed.2012.12.008. (*IF = 6.170; ranking in endocrinology & metabolism =16/143 , 11.2%*)
21. Chen, J.H.; Yeh, K.T.; Yang, Y.M.; Chang, J.G.; Lee, H.E.; **Hung, S.Y.** High expressions of histone methylation- and phosphorylation-related proteins are associated with prognosis of oral squamous cell carcinoma in male population of Taiwan. *Medical Oncology* **2013**, 30, 513, doi:10.1007/s12032-013-0513-z. (*IF = 2.834; ranking in oncology = 148/244 , 60.7%*)
22. Chan, W.L.; Yuo, C.Y.; Yang, W.K.; **Hung, S.Y.**; Chang, Y.S.; Chiu, C.C.; Yeh, K.T.; Huang, H.D.; Chang, J.G. Transcribed pseudogene psiPPM1K generates endogenous siRNA to suppress oncogenic cell growth in hepatocellular carcinoma. *Nucleic Acids Research* **2013**, 41, 3734-3747, doi:10.1093/nar/gkt047. (*IF = 11.501; ranking in biochemistry & molecular biology=15/297 , 5.1%*)
23. Er, T.K.; Kan, T.M.; Su, Y.F.; Liu, T.C.; Chang, J.G.; **Hung, S.Y.**; Jong, Y.J. High-resolution melting (HRM) analysis as a feasible method for detecting spinal muscular atrophy via dried blood spots. *Clinica Chimica Acta; International Journal of Clinical Chemistry* **2012**, 413, 1781-1785, doi:10.1016/j.cca.2012.06.033. (*IF = 2.615; ranking in medical laboratory technology = 10/29 , 34.5%*) \*Co-corresponding author
24. Chien, W.L.; Lee, T.R.; **Hung, S.Y.**; Kang, K.H.; Lee, M.J.; Fu, W.M. Impairment of oxidative stress-induced heme oxygenase-1 expression by the defect of Parkinson-related gene of PINK1. *Journal of Neurochemistry* **2011**, 117, 643-653, doi:10.1111/j.1471-4159.2011.07229.x. (*IF = 4.066; ranking in neurosciences = 84/271 , 31.0%*)

25. Lin, T.H.; Tang, C.H.; **Hung, S.Y.**; Liu, S.H.; Lin, Y.M.; Fu, W.M.; Yang, R.S. Upregulation of heme oxygenase-1 inhibits the maturation and mineralization of osteoblasts. *Journal of Cellular Physiology* **2010**, *222*, 757-768, doi:10.1002/jcp.22008. (IF = 5.546; ranking in physiology = 7/81 , 8.6%)
26. **Hung, S.Y.**; Liou, H.C.; Fu, W.M. The mechanism of heme oxygenase-1 action involved in the enhancement of neurotrophic factor expression. *Neuropharmacology* **2010**, *58*, 321-329, doi:10.1016/j.neuropharm.2009.11.003. (IF = 4.431; ranking in pharmacology & pharmacy = 43/270 , 15.9%)
27. **Hung, S.Y.**; Huang, W.P.; Liou, H.C.; Fu, W.M. Autophagy protects neuron from Abeta-induced cytotoxicity. *Autophagy* **2009**, *5*, 502-510, doi:10.4161/auto.5.4.8096. (IF = 9.770; ranking in cell biology = 22/195 , 11.3%)
28. **Hung, S.Y.**; Liou, H.C.; Kang, K.H.; Wu, R.M.; Wen, C.C.; Fu, W.M. Overexpression of heme oxygenase-1 protects dopaminergic neurons against 1-methyl-4-phenylpyridinium-induced neurotoxicity. *Molecular pharmacology* **2008**, *74*, 1564-1575, doi:10.1124/mol.108.048611. (IF = 3.664; ranking in pharmacology & pharmacy = 75/270 , 27.8%)
29. Liu, T.C.; Lin, S.F.; Chang, J.G.; Yang, M.Y.; **Hung, S.Y.**; Chang, C.S. Epigenetic alteration of the SOCS1 gene in chronic myeloid leukaemia. *British Journal of Haematology* **2003**, *123*, 654-661, doi:10.1046/j.1365-2141.2003.04660.x. (IF = 5.518; ranking in hematology=14/76 , 18.4%)