

花蓮慈濟醫院研究部

幹細胞治療轉譯醫學實驗室

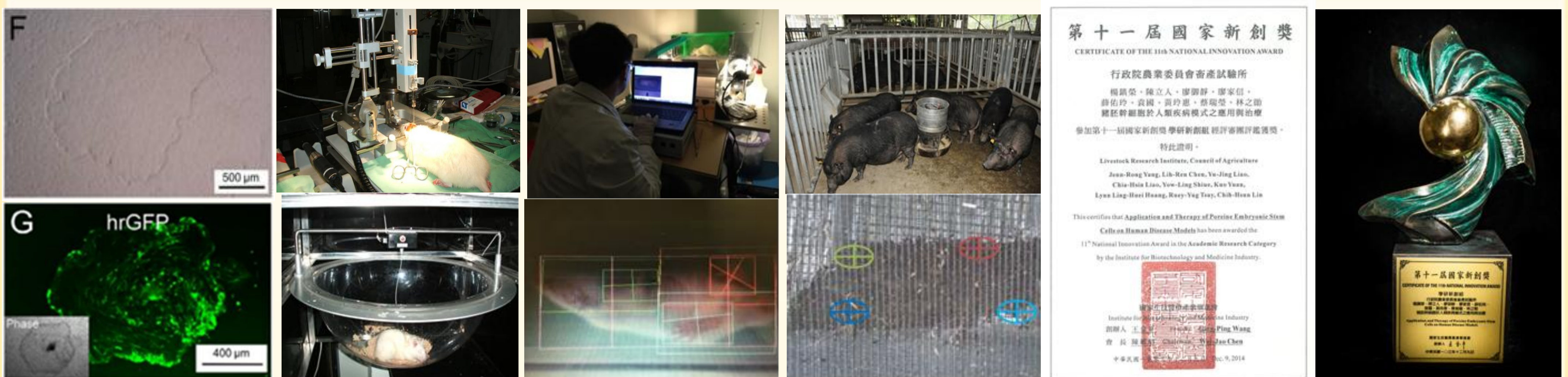
主持人：廖家信 博士 獸醫師 研究室成員：陳冠燕、林予捷、王珮宇

合作單位：國立陽明大學 陳右穎教授
 農委會畜試所 楊鎮榮副研究員

研究簡介

研究主題：

1. 帕金森氏症(Parkinson's disease)之幹細胞治療研究
2. 牙神經幹細胞(Tooth neuronal stem cells, tNSCs)之分離與應用
3. 胚幹細胞(Embryonic stem cells, ESCs)、誘導多能性幹細胞(Induced pluripotent stem cells, iPSCs)之生醫豬模式應用



豬之iPSCs/GFP細胞 帕金森氏症大鼠模型 實驗大鼠步態分析 生醫用蘭嶼豬步態分析 研究主題榮獲第十一屆國家新創獎

計畫與經費來源

計畫名稱	擔任工作	起訖年月	委託機構	經費總額
週邊神經義肢-重建上肢靈活功能之新療法(105-2221-E-010-014-MY2)	共同主持人	2016/08/01~2018/07/31	科技部	2,052,000
建立帕金森氏症之生醫迷你豬大型動物模式並比較移植豬胚幹細胞及豬誘導多潛能性幹細胞之療效研究	主持人	2017/01/01~2017/12/31	花蓮慈濟醫院	719,953
以帕金森氏症之大鼠模式探討腦內移植人類牙齒神經幹細胞及合併投予顆粒球群集刺激素之療效研究。	主持人	2016/01/01~2016/12/31	花蓮慈濟醫院	718,853
探討巴金森氏症對於體感覺皮質區的影響	共同主持人	2016/01/01~2016/12/31	花蓮慈濟醫院	680,000
探討罹患根尖周圍炎拔除之白齒於牙齒神經幹細胞培養分離成功率之影響因素	共同主持人	2016/01/01~2016/12/31	花蓮慈濟醫院	98,000
以帕金森氏症之大鼠模式探討移植 Nurr-1+ 人類智齒幹細胞及其誘導分化之神經先驅細胞之療效研究	主持人	2015/01/01~2015/12/31	花蓮慈濟醫院	639,616

研究成果

1. Yow-Ling Shiue, Jenn-Rong Yang, Yu-Jing Liao, Ting-Yung Kuo, **Chia-Hsin Liao**, Ching-Hsun Kang, Chein Tai, Gary B. Anderson, Lih-Ren Chen (2016, Apr). Derivation of porcine pluripotent stem cells for biomedical research. *Theriogenology*, 86, 176-181. (SCI, 15.03%(20/133), VETERINARY SCIENCES).
2. Wei-Chen Huang, Hsin-Yi Lai, Li-Wei Kuo, **Chia-Hsin Liao**, Po-Hsieh Chang, Ta-Chung Liu, San-Yuan Chen, You-Yin Chen (2015, Jun). Multifunctional 3D Patternable Drug-Embedded Nanocarrier-Based Interfaces to Enhance Signal Recording and Reduce Neuron Degeneration in Neural Implantation. *Advanced Materials*, 27(28), 4186-4193. (SCI, 1.43%(2/139), CHEMISTRY, PHYSICAL). NSC 102-2221-E-009-024-MY3.
3. Yu-Jing Liao, **Chia-Hsin Liao**, Jiunn-Wang Liao, Kuo Yuan, Yu-Zhan Liu, Yi-Shiou Chen, Lih-Ren Chen and Jenn-Rong Yang (2014, Jul). Establishment and Characterization of Novel Porcine Induced Pluripotent Stem Cells Expressing hrGFP. *Journal of Stem Cell Research & Therapy*, 4(5), 1-7.
4. **Chia-Hsin Liao**, Yu-Jing Liao, Kuo Yuan, Yu-Chi Yang, Yu-Yu Joyce Ho, Jiunn-Wang Liao, Lih-Ren Chen, Yow-Ling Shiue and Jenn-Rong Yang (2014, Jun). The Pro-Inflammatory Cytokines Expression of Porcine Embryonic Stem Cells Xenotransplanted into the Brain and Spinal Cord in Rats. *Journal of Cell Science and Therapy*, 5(3), 1-8.
5. Heng-Wen Liu, Wei-Chen Huang, Chih-Sheng Chiang, Shang-Hsiu Hu, **Chia-Hsin Liao**, You-Yin Chen and San-Yuan Chen. (2014, Mar). Arrayed rGOSH/PMASH Microcapsule Platform Integrating Surface Topography, Chemical Cues, and Electrical Stimulation for Three-Dimensional Neuron-Like Cell Growth and Neurite Sprouting. *Advanced Functional Materials*, 24 (24), 3715-3724. (SCI, 4.56%(11/241), MATERIALS SCIENCE, MULTIDISCIPLINARY). MOST 102-2221-E-009-023-MY3.
6. Li-Yi Sun, Cheng-Yoong Pang, Dian-Kun Li, **Chia-Hsin Liao**, Wei-Chao Huang, Chao-Chuan Wu, Yi-Yo Chou, Wei Wu Li, Shin-Yuan Chen, Hwan-Wun Liu, Yao-Jen Chang, Ching-Feng Cheng (2013, Aug). Antioxidants cause rapid expansion of human adipose-derived mesenchymal stem cells via CDK and CDK inhibitor regulation. *Journal of Biomedical Science*, 20(1):53. (SCI, 47.10%(57/121), MEDICINE, RESEARCH & EXPERIMENTAL).
7. **Chia-Hsin Liao**, Shin-Yuan Chen, Jon-Son Kuo, Cheng-Yoong Pang (2013, Jun). Reduction of Motor Disorder in 6-OHDA-Induced Severe Parkinsonism Rats by Post Treatment with Granulocyte-Colony Stimulating Factor. *Chinese Journal of Physiology*, 56(3): 147-154. (SCI, 89.87% (71/79), PHYSIOLOGY).
8. Jenn-Rong Yang, **Chia-Hsin Liao**, Cheng-Yoong Pang, Lynn Ling-Huei Huang, Yi-Ling Chen, Yow-Ling Shiue, Lih-Ren Chen (2013, May). Transplantation of porcine embryonic stem cells and their derived neuronal progenitors in a spinal cord injury rat model. *Cytherapy*, 15(2):201-208. (SCI, 20.88%(33/158), BIOTECHNOLOGY & APPLIED MICROBIOLOGY).
9. Jenn-Rong Yang, Yu-Ting Lin, **Chia-Hsin Liao**. (2011, Mar). Application of Embryonic Stem Cells on Parkinson's Disease Therapy. *Genomic Medicine, Biomarkers, and Health Sciences*, 3 (1), 17-26. (Scopus).