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學歷

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明尼蘇達大學	美國	藥劑學研究所	博士
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經歷

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經歷：臺南大學	生物科技學系	教授
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國立臺南大學	生物科技學系碩士班	所長
國立臺南大學	生物資源與科技研究所	所長
國立成功大學醫學院	臨床藥學與藥物科技研究所	兼任
明尼蘇達大學	藥劑研究所	研究助理
明尼蘇達大學	藥劑系	助教
國立臺灣大學	藥學系	助教

FULL PAPER 恭喜獲得美國專利權 恭喜獲得中華民國專利權

Small 2019;15(49):e1903296
SCI; IF = **13.3; Rank = 7.5%** in Materials Science
Theranostics 2020; 10(15): 6695-6714
SCI; IF = **11.6; Rank = 6.4%** in Medicine, Research & Exp.

A platform for combinatorial therapy of gene and chemotherapeutics: nanoparticles with pH-detachable coating and targeting peptides for specific delivery to the nucleus and mitochondrion of multiple cancers

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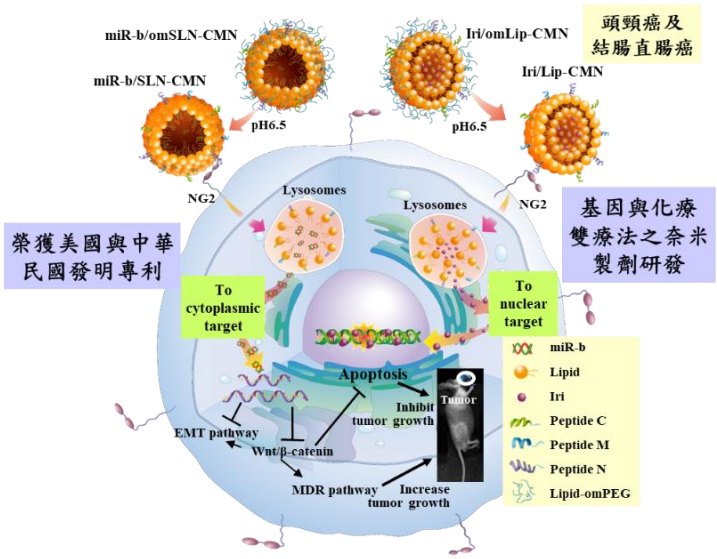


生技醫藥奈米劑型設計相關設備


噴霧乾燥機


冷凍乾燥機


真空乳化機

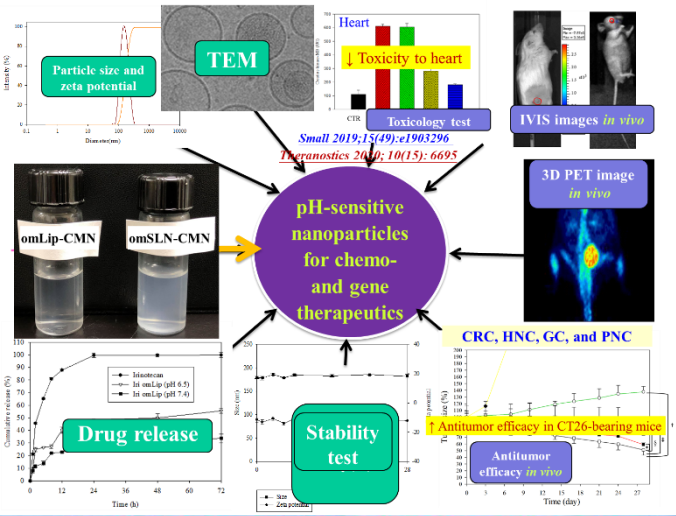

物性質構儀


HPLC系統


粒徑分析儀


膠囊填充系統

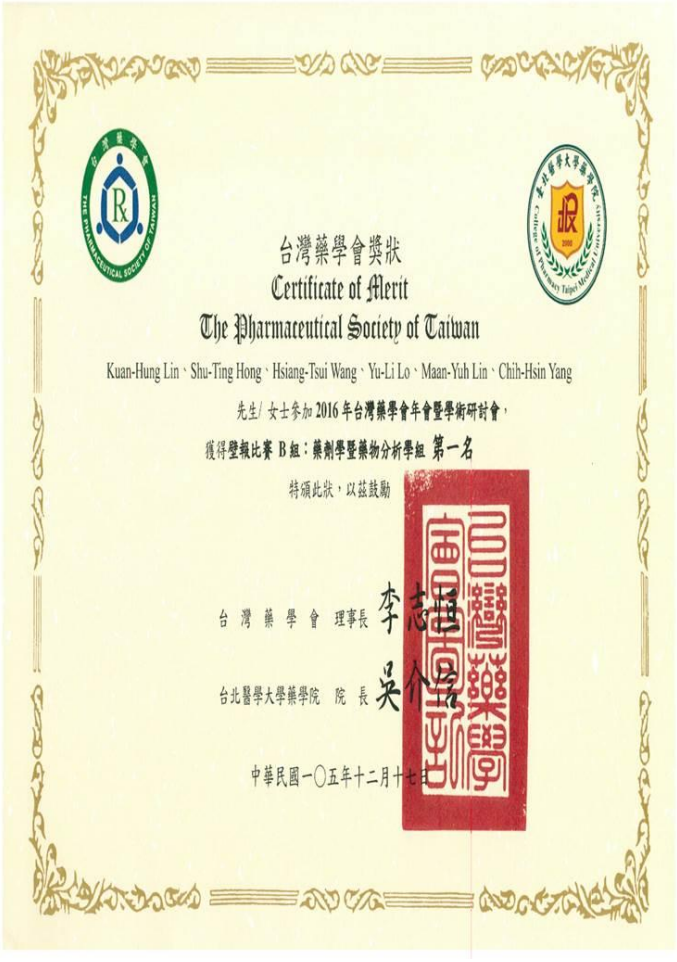

打錠機



pH-responsive nanoparticles encapsulating oxaliplatin and microRNA for inhibition of colorectal cancer

利用pH敏感性奈米載體包覆Oxaliplatin及microRNA以抑制結腸直腸癌

Performed by 陳彥均 (Yen-Chun Chen)



獎勵

- 榮獲科技部 2021 未來科技獎
- 榮登終身科學影響力(1960-2020)、2020 年度科學影響力排行榜全球 top 2%學者
- 榮獲陽明交大 110 年度第三季重要期刊論文獎
- 榮獲陽明交大 110 年度教師重要學術獎表揚
- 榮獲 2022 年榮總台灣聯合大學系統第 18 期合作研究成果發表會壁報論文獎第二名
- 榮獲第 17 屆榮台聯大優良論文獎第三名
- 2018 年台灣藥學年會藥劑組口頭論文報告優等
- 2016 年台灣藥學年會壁報比賽藥劑組第一名
- 榮獲中華民國發明專利二項及美國專利一項 (另一項美國專利申請中)

研究主題　<u>腫瘤微環境敏感型奈米標靶載體應用於精準化癌症標的與治療</u>

研究興趣

- 細胞核和粒線體雙靶向奈米粒遞送免疫-基因-化療組合療法(3 年期計畫)
- 遞輸 CRISPR/Cas9 基因編輯系統及化療藥物之智慧型奈米粒以增強抗腫瘤效應(3 年期計畫)
- 標靶藥物與核醣核酸之奈米劑型可雙向調控腫瘤能量代謝與粒線體功能
- 設計溫度或環境敏感及胜肽修飾奈米粒作為多功能標的治療之輸送載體
- 可解離的腫瘤標靶奈米粒作為癌症藥物及基因組合療法之載體
- 發展 CRISPR/Cas、微小核醣核酸、反義寡核苷酸或干擾核醣核酸及抗癌藥物之奈米粒作為抗癌新製劑
- 具潛力抗氧化及抗老化成分之新劑型研發

專長

1. 腫瘤標靶與酸鹼敏感型奈米遞輸系統研發	2. 開發抗菌胜肽作為抗癌藥物之新佐劑	3. 生技醫藥奈米製劑研發
4. 調控腫瘤代謝與粒線體功能及抑制多重抗藥性	5. CRISPR/Cas9 因編輯系統或反義核酸劑型研發	6. 干擾性或微小核醣核酸之抗癌製劑
7. 天然物作為抗癌佐劑之活性篩選	8. 生醫高分子及原位成膠	9. 奈米粒之冷凍乾燥及噴霧乾燥劑型設計

最近 5 年代表性期刊論文

1. **<u>Lo, Y.L.</u>*,** Wang, T.Y., Chen, C.J., Chang, Y.H., **Lin, A.M.Y.*** Two-in-one nanoparticle formulation to deliver a tyrosine kinase inhibitor and microRNA for targeting metabolic reprogramming and mitochondrial dysfunction. Manuscript submitted to **Pharmaceutics** 2022; 14(9): 1759 (SCI; IF = 6.53; Rank = 8.31% by Journal Citation Indicator (JCI) in Pharmacology & Pharmacy).
2. **<u>Lo, Y.L.</u>***, Lin, H.C., Tseng, W.H. Tumor pH-functionalized and charge-tunable nanoparticles for the nucleus/cytoplasm-directed delivery of oxaliplatin and miRNA in the treatment of head and neck cancer **Acta Biomaterialia** 2022: in press (SCI; IF = 10.63; Rank = 6.96% by JCI in Engineering, Biomedical).
3. Wang, C.S., Chang, C.H., Tzeng, T.Y., Lin, A.M.Y., **<u>Lo, Y.L.</u>*** Gene-editing by CRISPR-Cas9 in combination with anthracycline therapy via tumor microenvironment-switchable, EGFR-targeted, and

the nucleus-directed nanoparticles for head and neck cancer suppression. **Nanoscale Horizons** 2021; 6(9): 729 (SCI; IF = 11.68; Rank = 10.72% by IF in Materials Science, Multidisciplinary; **被選為 2021 第 6 卷第 9 期封底 (outside back cover).**

4. **Lo, Y.L.***, Lin, H.C., Hong, S.T., Chang, C.H., Wang, C.S., Lin, A.M.Y.* Lipid polymeric nanoparticles modified with tight junction-modulating peptides promote afatinib delivery across a blood–brain barrier model. **Cancer Nanotechnology** 2021; 12: 13 (SCI; IF = 7.91; Rank = 18.78% by IF in Oncology).
5. Huang, H.J., Wang, H.T., Yeh, T.Y., Lin, B.W., Shiao, Y.J., **Lo, Y.L.***, Lin, A.M.Y.* Neuroprotective effect of selumetinib on acrolein-induced neurotoxicity. **Scientific Reports** 2021; 11: 12497 (SCI; IF = 5.0; Rank 14.18% by JCI in Multidisciplinary Sciences).
6. **Lo, Y.L.***, Wang, C.S., Chen, Y. C., Wang, T.Y., Chang, Y.H., Chen, C.J., Yang, C.P. Mitochondrion-directed nanoparticles loaded with a natural compound and a microRNA for promoting cancer cell death via the modulation of tumor metabolism and mitochondrial dynamics. **Pharmaceutics** 2020; 12(8): 756 (SCI; IF = 6.53; Rank = 8.31% by Journal Citation Indicator (JCI) in Pharmacology & Pharmacy).
7. Lin, Y.Y., Yang, Y.Y., Wei-Yi Lai, Chian-Shiu Chien, Shih-Jen Chen, De-Kuang Hwang, Ying-Hsiu Lai, Tai-Chi Lin, Shih-Hwa Chiou, **Lo, Y.L.**, Teh-Ia Huo, Yueh Chien*. Development of polydimethylsiloxane-based biomimetic scaffolds with cylinder micropillars for retinal pigment epithelial cell cultivation. **J Chin Med Assoc.** 2020; 83(11):1029. (SCI; IF = 3.4; Rank = 23.71% by JCI in Medicine, General & Internal)
8. **Lo, Y.L.***, Chang, C.H., Wang, C.S., Yang, M.H., Lin, A.M.Y., Hong, C.J., Tseng, W.H. PEG-coated nanoparticles detachable in acidic microenvironments for the tumor-directed delivery of chemo- and gene therapies for head and neck cancer. **Theranostics** 2020; 10(15): 6695 (SCI; IF = 11.6; Rank = 4.62% by JCI in Medicine, Research & Experiment).
9. Lin, S.Y., Yang, C.P., Wang, Y.Y., Hsiao, C.W., Chen, W.Y., Lai, S.L., **Lo, Y.L.**, Chang, Y.H., Hong, C.J., Chen, C.J.* Interleukin-4 improves metabolic abnormalities in leptin deficient and high-fat diet mice. **Int. J. Mol. Sci.** 2020; 21(12): 4451 (SCI; IF = 6.21; Rank = 23.31% by IF in Biochemistry & Molecular Biology).
10. Juang, V., Chang, C.H., Wang, C.S., Chen, Y.C., Wang, H.E., **Lo, Y.L.*** pH-responsive PEG-shedding and targeting peptide-modified nanoparticles for dual-delivery of irinotecan and microRNA to enhance tumor-specific therapy. **Small** 2019; 15(49):e1903296 (SCI; IF = 15.2; Rank = 7.25% by IF in Materials Science, Multidisciplinary).
11. Hong, S.T., Lin, H.C., Wang, C.S., Chang, C.H., Lin, A.M.Y., Yang, C.H.J., **Lo, Y.L.*** Improving the anticancer effect of afatinib and microRNA by using lipid polymeric nanoparticles conjugated with dual pH-responsive and targeting peptides. **J Nanobiotechnology** 2019;17(1):89 (SCI; IF = 9.43; Rank = 8.86 % by IF in Biotechnology & Applied Microbiology).
12. Yu-Li Lo, Y.C. Chen, C.H. Chang, W.H. Tseng, C.S. Wang. Tumor-targeted and pH-shiftable nanoparticles to encapsulate oxaliplatin and microRNA for colorectal cancer therapy. In: Proceedings of the AACR-NCI-EORTC International Conference on Molecular Targets and Cancer Therapeutics; 2019 Oct 26-30; Boston, MA. Philadelphia (PA): AACR; Mol Cancer Ther 2019;18(12 Suppl): Abstract A100.

13. Chen, Y.J., Hsu, C.C., Shiao, Y.J., Wang, H.T., **Lo, Y.L.***, Lin, A.M.Y.* Anti-inflammatory effect of afatinib (an EGFR-TKI) on OGD-induced neuroinflammation. **Scientific Reports** 2019; 9(1): 2516 (SCI; IF = 5.0; Rank 14.18% by JCI in Multidisciplinary Sciences).
14. Yang, C.P., Shiau, M.Y., Lai, Y.R., Ho, K.T., Hsiao, C.W., Chen, C.J., **Lo, Y.L.**, Chang, Y.H.* Interleukin-4 boosts insulin-induced energy deposits by enhancing glucose uptake and lipogenesis in hepatocytes. **Oxid Med Cell Longev.** (Oxidative Medicine and Cellular Longevity) 2018; 6923187 (SCI; IF = 7.31; Rank = 28.35% by IF in Cell Biology).
15. Zhao, W.Z., Wang, H.T., Huang, H.J., **Lo, Y.L.***, Lin, A.M.Y.* Neuroprotective effects of baicalein on acrolein-induced neurotoxicity in the nigrostriatal dopaminergic system of rat brain. **Molecular Neurobiology 2018**; 55(1): 130 (SCI; IF = 5.69; Rank = 20.98% by JCI in Neurosciences).
16. Lin, G.L., Ting, H.J., Tseng, T.C., Juang, V., **Lo, Y.L.*** (2017) Modulation of the mRNA-binding protein HuR as a novel reversal mechanism of epirubicin-triggered multidrug resistance in colorectal cancer cells **PLoS One** 12(10): e0185625 (SCI; IF = 3.752; Rank = 20.9% by JCI in Multidisciplinary Sciences).
17. Wang, H.T.*, Lin, J.H., Yang, C.H, Haung, C.H., Weng, C.W., Lin, A.M.Y., **Lo, Y.L.,** Chen, W.S., Tang, M.S. (2017) Acrolein induces mtDNA damages, mitochondrial fission and mitophagy in human lung cells. **Oncotarget** 8: 70406 (SCI; IF = 5.168; Rank = 20.28% by IF in Oncology).
18. Wang, Y.T., Lin, H.C., Zhao, W.Z., Huang, H.J., **Lo, Y.L.**, Wang, H.T.*, Lin, A.M.Y.* (2017) Acrolein acts as a neurotoxin in the nigrostriatal dopaminergic system of rat: involvement of α-synuclein aggregation and programmed cell death. **Scientific Reports** 7: 45741-45749 (SCI; IF = 5.0; Rank 14.18% by JCI in Multidisciplinary Sciences).
19. Lin, K.H., Hong, S.T., Wang, H.T., **Lo, Y.L.***, Lin, A.M.Y.*, Yang, C.H.J. Enhancing anticancer effect of gefitinib across the blood-brain barrier model using liposomes modified with one alpha-helical cell-penetrating peptide or glutathione and Tween 80. **Int. J. Mol. Sci.** 2016; 17 (12): 1998-2014 (SCI; IF = 5.9; Rank = 22.5% in Biochemistry).
20. Juang, V., Lee, H.P., Lin, A.M.Y., **Lo, Y.L.*** Cationic PEGylated liposomes incorporating an antimicrobial peptide hepcidin 2-3: an adjuvant of epirubicin to overcome multidrug resistance in cervical cancer cells. **Int. J. Nanomedicine** 2016; 11: 6047–6064 (SCI; IF = 6.4; Rank = 9.8% in Pharmacology & Pharmacy).