MINT

Tsing Hwa University (清華大學)

Department of Biomedical Engineering and Environmental Sciences(生醫工程與環境科學系)

幹細胞與生醫材料實驗室

Stem cells and biomaterials Lab

I-Chi Lee, Ph.D (李亦淇)

2025

MINT 學程

題目:癌症體外模式建立與治療新策略開發

國衛院合作:生醫工程與奈米醫學研究所 董國忠副研究員

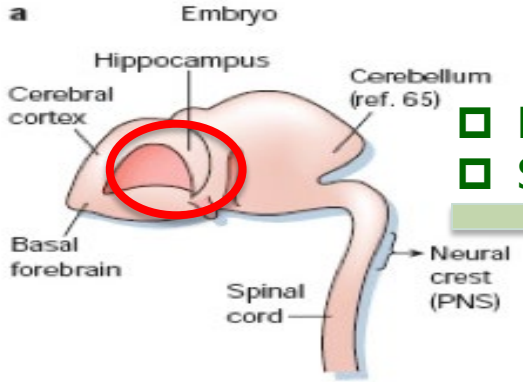
招收學生背景:生醫、理工、化工或材料背景均可

招收學生: 碩士/博士

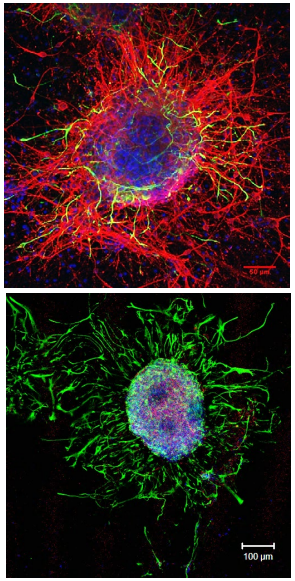
- 此計畫將在本實驗室過去具備的3D生物列印與晶片設計基礎，建立三維的類腫瘤晶片
- 同時也在實驗室具備微針與微球輸送系統技術下開發癌症免疫治療的新策略

Brain on a chip (Neural stem cells)

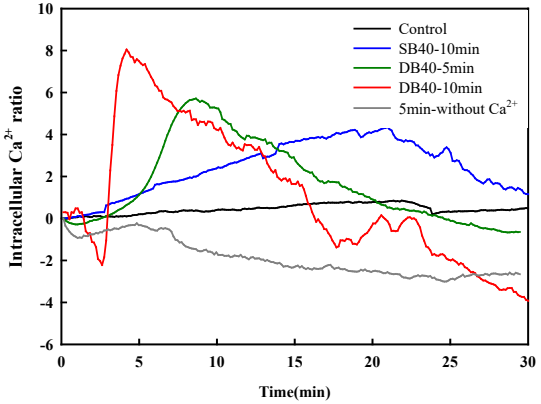
NSPCs are extracted from Wistar ED 15 rats.



- PEM films
- SLB-PEM films

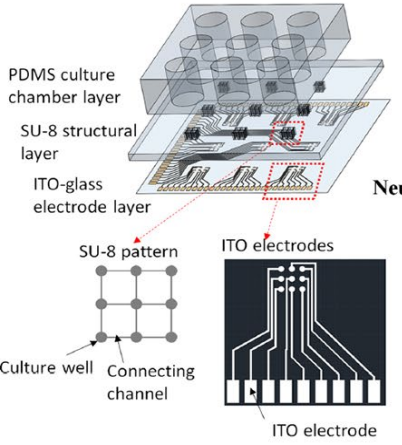


- Electrical stimulation
- Low intensity ultrasound

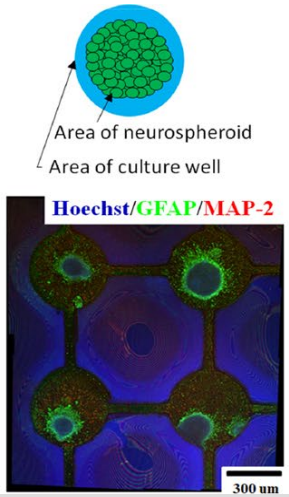


✓ 建立可供分析的神經網絡平台

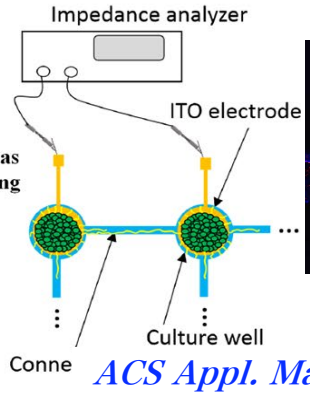
✓ 建立以實時量測突觸鏈接與斷裂的分析方法

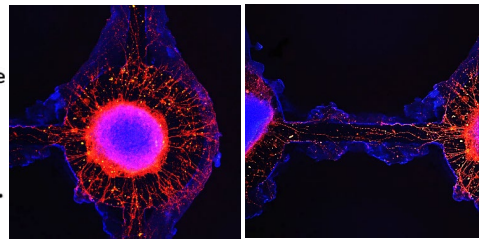


Neural stem/progenitor cells are seeded



The neural network was confirmed by measuring the impedance





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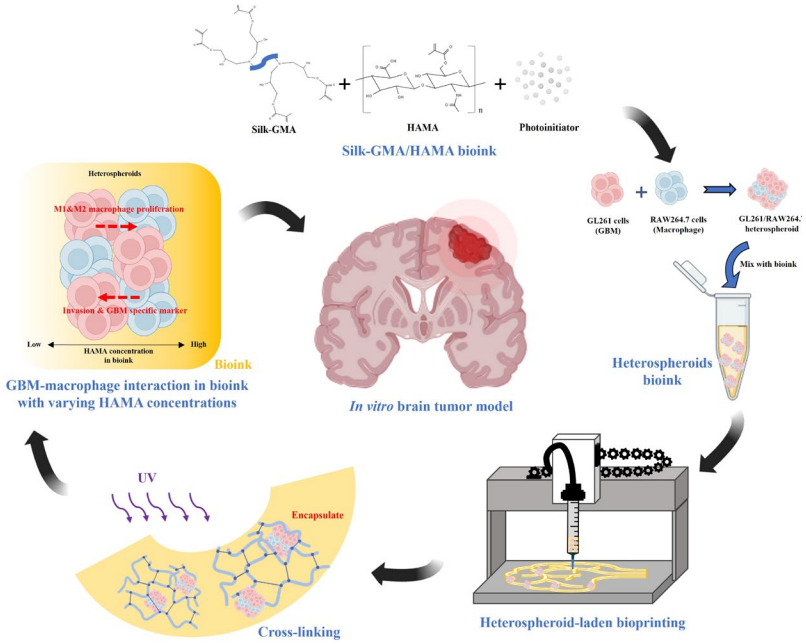
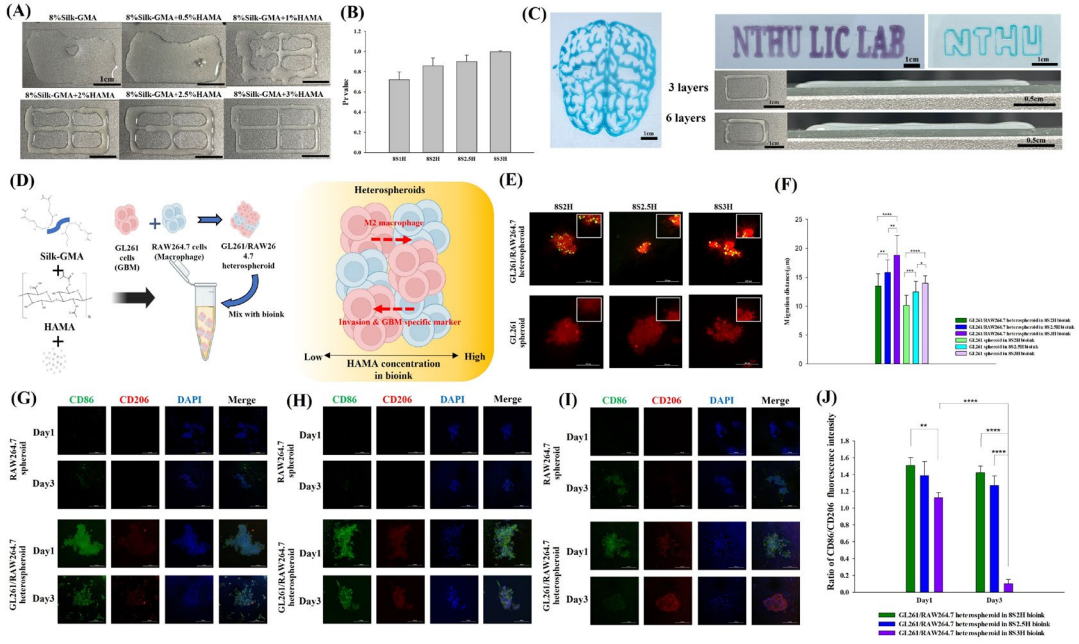
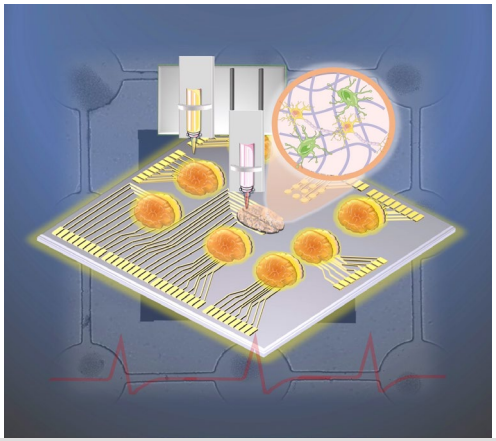
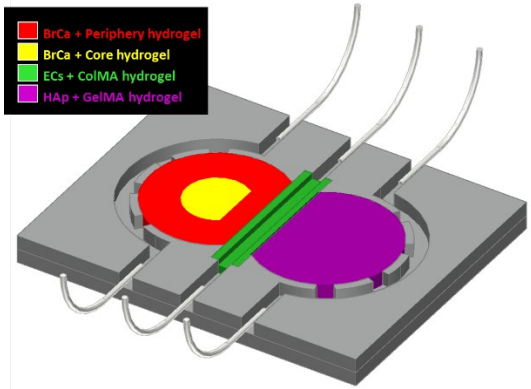
3D生物列印 (3D Bioprinting) And tumor on chip





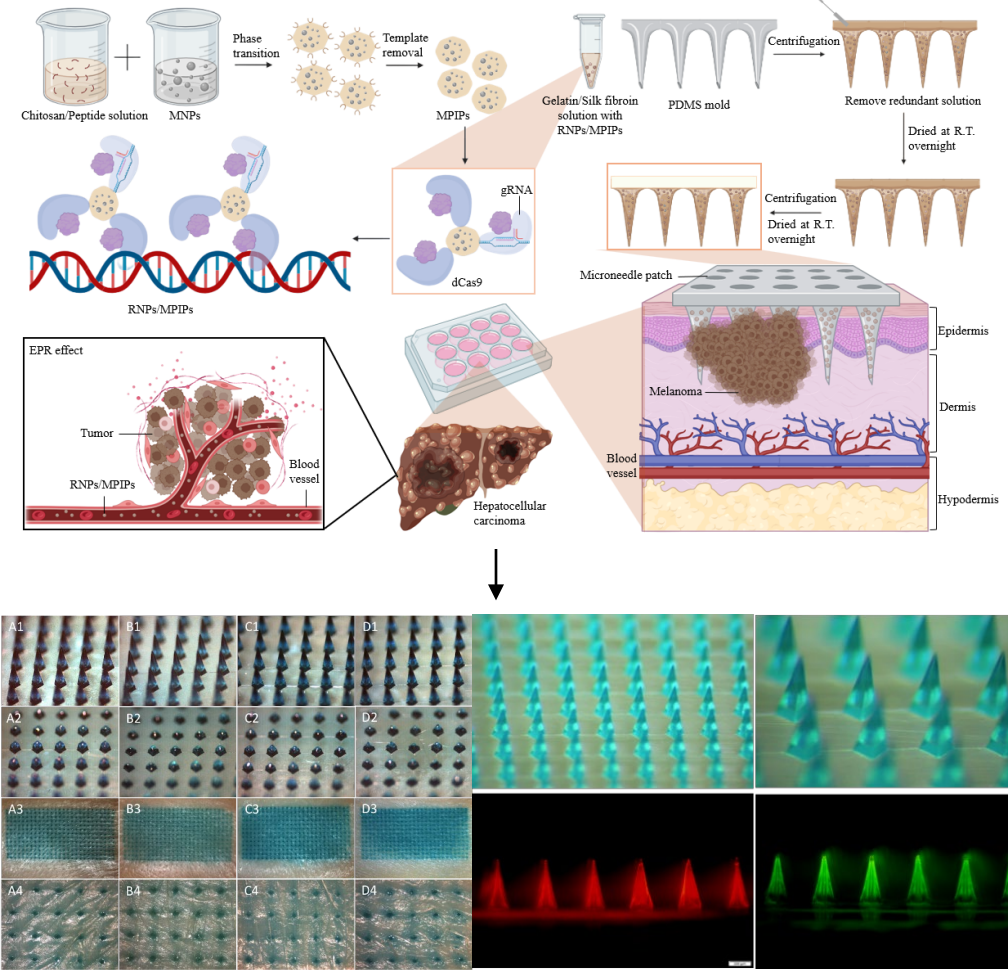
- 生物墨水開發(Bioinks)
- 3D 列印腫瘤模型
- 體外腫瘤模式建立
- 腫瘤晶片設計與開發



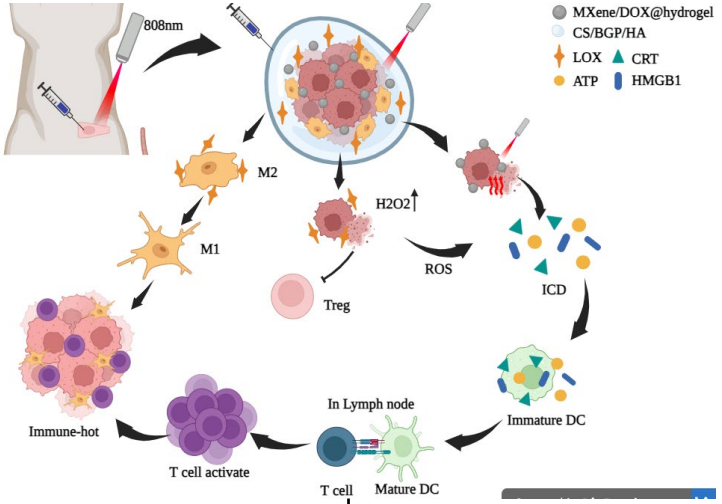


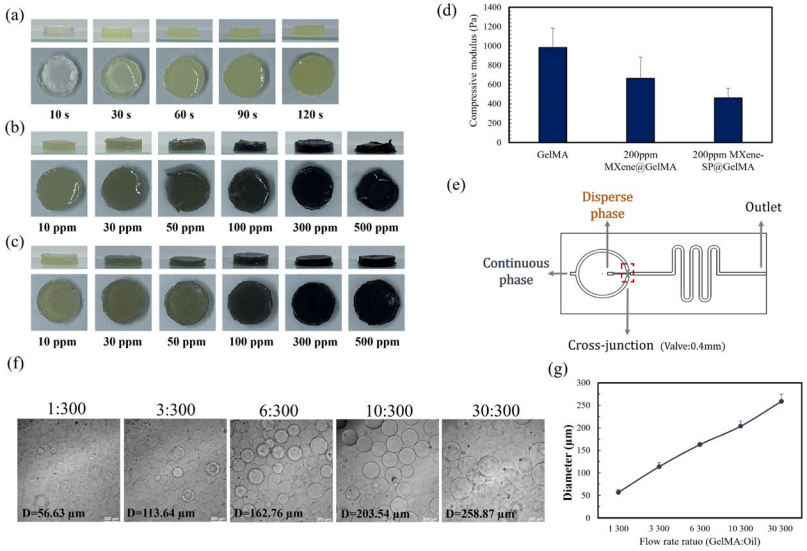
腫瘤免疫治療新策略開發

微針結合基因療法



微球結合光熱與免疫治療





歡迎加入幹細胞與生醫材料實驗室

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