鄭詠馨教授-高分子材料與生醫工程研究室

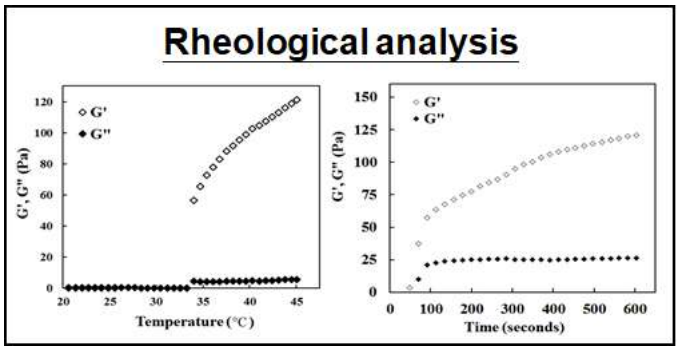
(Polymers & Biomedical Engineering Laboratory)

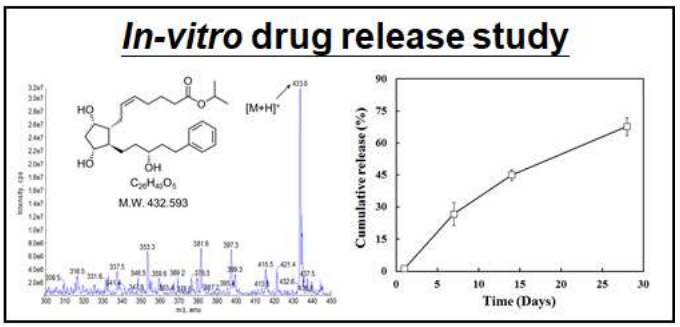
本實驗室之研究主軸包括高分子材料分析、藥物載體開發及再生醫學相關研究

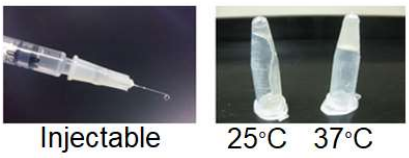
- 高分子材料分析（流變學、微結構、熱分析及光譜分析等等）
- 藥物載體開發（藥物控釋設計、可注射式溫敏性凝膠、奈米載體及薄膜材料等等）
- 再生醫學之研究（組織工程及細胞治療等等）

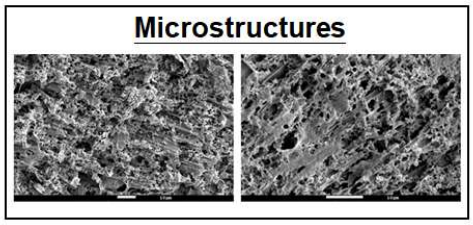
開發高分子材料應用於生物醫學之研究：

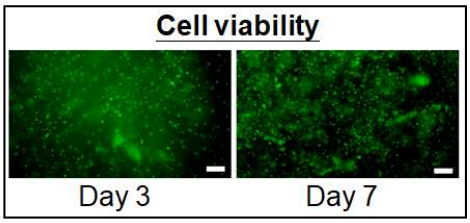
1) Thermosensitive hydrogels



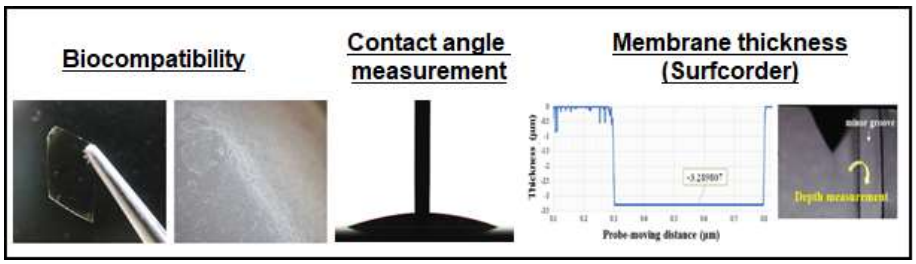




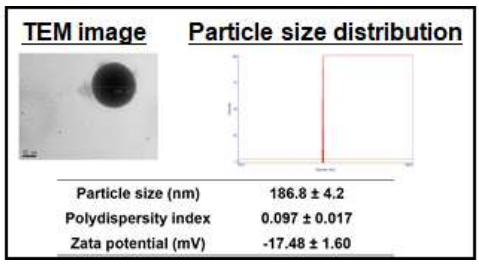




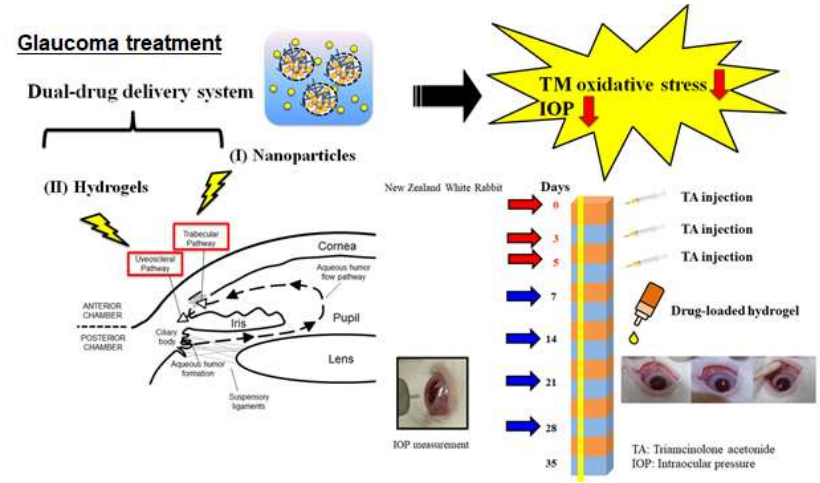
2) Polymer films

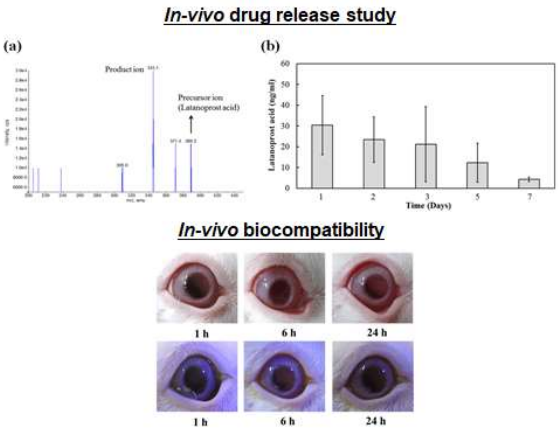


3) Nanoparticles



高分子生醫材料應用於眼科疾病治療之研究：

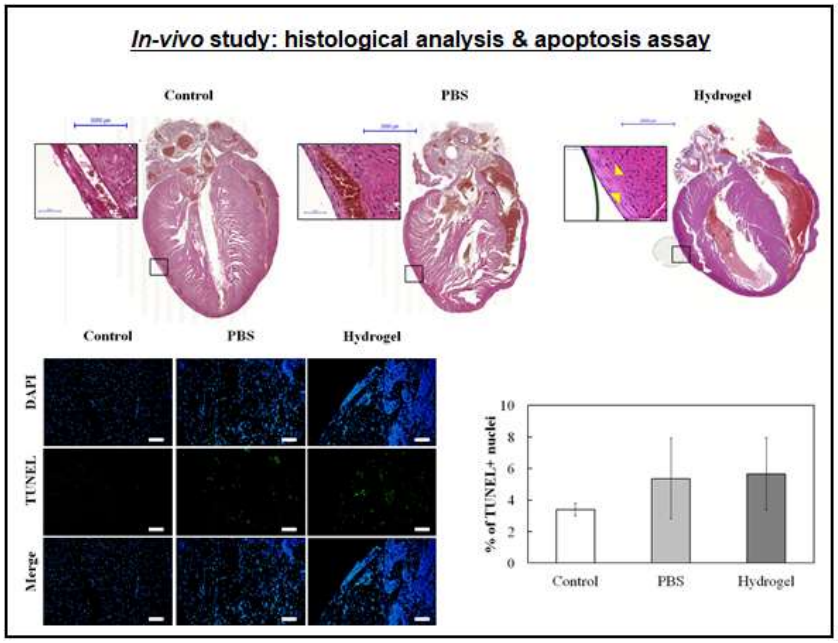


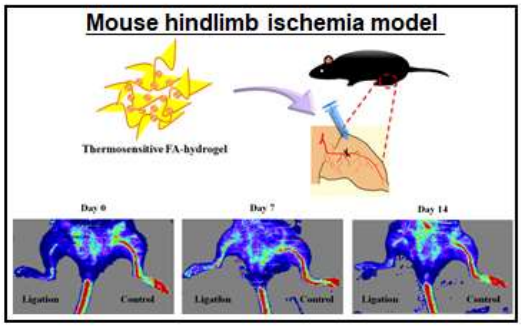


PUBLICATIONS (*corresponding):

- **Cheng YH**, Tsai TH, Jhan YY, Chiu AW, Tsai KL, CS Chien, Chiou SH, Liu CJ. Thermosensitive chitosan-based hydrogel as a topical ocular drug delivery system of latanoprost for glaucoma treatment. Carbohydrate Polymers 2016; 144:390-9. (SCI, IF: 4.811, Rank: 4/72, CHEMISTRY, APPLIED)
- **Cheng YH**, Hung KH, Tsai TH, Lee CJ, Ku RY, Chiu AW, Chiou SH, Liu CJ. Sustained delivery of latanoprost by thermosensitive chitosan-gelatin-based hydrogel for controlling ocular hypertension. Acta Biomaterialia 2014; 10: 4360-66. (SCI, IF: 6.319, Rank: 3/77, ENGINEERING, BIOMEDICAL)
- Tsai CY, Woung LC, Yen JC, Tseng PC, Chiou SH, Sung YJ, Liu KT, **Cheng YH***. Thermosensitive chitosan-based hydrogels for sustained release of ferulic acid on corneal wound healing. Carbohydrate Polymers 2016; 135:308-15. (SCI, IF: 4.811, Rank: 4/72, CHEMISTRY, APPLIED)
- Tsai IL, Hsu CC, Hung KH, Chang CW, **Cheng YH***. Mini-review: Applications of biomaterials in corneal wound healing. Journal of the Chinese Medical Association 2015; 78:212-17. (SCI, IF: 1.252, Rank: 82/154, MEDICINE, GENERAL & INTERNAL)

高分子生醫材料應用於心血管疾病治療之研究





PUBLICATIONS (*corresponding):

- **Cheng YH**, Lin FH, Wang CY, Hsiao CY, Chen HC, Kuo HY, Tsai TF, Chiou SH. Recovery of oxidative stress-induced damage in cisd2-deficient cardiomyocytes by sustained release of ferulic acid from injectable hydrogel. Biomaterials. 2016; 103:207-18. (SCI, IF: 8.387, Rank: 2/76, ENGINEERING, BIOMEDICAL)
- Chan SH, Hung CH, Shih JY, Chu PM, **Cheng YH**, Lin HC, Tsai KL. SIRT1 inhibition causes oxidative stress and inflammation in patients with coronary artery disease. Redox Biology 2017; 13:301-309 (SCI, IF: 6.337, Rank: 34/286, BIOCHEMISTRY & MOLECULAR BIOLOGY)
- Tsai KL, Kao CL, Hung CH, **Cheng YH**, Lin HC, Chu PM. Chicoric acid is a potent anti-atherosclerotic ingredient by anti-oxidant action and anti-inflammation capacity. Oncotarget 2017; 8:29600-12. (SCI, IF:5.168, Rank:44/217, ONCOLOGY)
- Chan SH, Hung CH, Shih JY, Chu PM, **Cheng YH**, Tsai YJ, Lin HC, Tsai KL. Baicalein is an available anti-atherosclerotic compound through modulation of nitric oxide-related mechanism under oxLDL exposure. Oncotarget 2016; 7:42881-42891 (SCI, IF: 5.168, Rank: 44/217, ONCOLOGY)

- Tsai KL, Chang YL, Huang PH, **Cheng YH**, Liu DH, Chen HY, Kao CL. Ginkgo biloba extract inhibits oxidized low-density lipoprotein (oxLDL)-induced matrix metalloproteinase activation by the modulation of the lectin-like oxLDL receptor 1-regulated signaling pathway in human umbilical vein endothelial cells. J Vasc Surg. 2016; 63:204-15 (SCI, IF: 3.536, Rank: 30/196, SURGERY)
- Chan SH, Chu PM, Kao CL, **Cheng YH**, Hung CH, Tsai KL. Oleic acid activates MMPs up-regulation through SIRT1/PPAR-γ inhibition: a probable linkage between obesity and coronary arterial disease. Journal of Biochemistry 2016; 160:217-225 (SCI, IF: 2.082, Rank: 203/286, BIOCHEMISTRY & MOLECULAR BIOLOGY)
- Tsai KL, Huang PH, Kao CL, Leu SB, **Cheng YH**, Liao YW, et al. Aspirin attenuates Vinorelbine-induced endothelial inflammation via modulating SIRT1/AMPK axis. Biochemical Pharmacology 2014; 88:189-200. (SCI, IF: 4.581, Rank: 30/256, PHARMACOLOGY & PHARMACY)