

# 花蓮慈濟醫院研究部

## 血小板功能性分析研究室

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### 研究簡介

本研究室主要方向為探討人類血小板之功能，運用流式細胞儀及各式血小板功能檢測工具來進行分析，透過血小板在不同活化階段之表面抗原表現量差異、人類血小板微粒功能性分析、血小板與白血球之鍵結反應等。目前研究的重點方向為

- 不同疾病對患者體內血小板活性之研究
  - 血液腫瘤科、風濕免疫科、重症(感染)科疾病等
- 藥物與治療方式對患者體內血小板活性之影響
  - 標靶治療藥物、中草藥等
- 血小板微小顆粒與白血球之交互作用之研究
  - 敗血症、自體免疫疾病等之免疫反應

### 計畫與經費來源

1. 利用流式細胞儀偵測血小板表面標記和血小板微粒用於評估血小板輸注之功效 (TCRD108-73。花蓮慈濟醫院)
2. 體外膜肺氧合(葉克膜)患者之血小板功能及凝血功能研究 (TCRD109-56。花蓮慈濟醫院)
3. 體外膜氧合系統 (ECMO、葉克膜) 患者之血小板功能及凝血功能研究 (TCMF-P 110-10。花蓮慈濟醫院)
4. 藉由離體和體外研究了解血小板促進血液惡性腫瘤患者癌症進展的機制 (TCRD112-064。花蓮慈濟醫院)
5. 顱腦損傷病患經中醫治療後之血小板抗原及功能變化 (TCMF-CM2-112-05。花蓮慈濟醫院)
6. 敗血症病程中血小板活性、血小板-白血球凝集和血小板微粒之變化，及與維生素D缺乏之關聯 (TCRD112-068。花蓮慈濟醫院)
7. 血小板和凝血反應對中風或神經退化性病患者之相關性 (TCMMP112-01-03。花蓮慈濟醫院)

### 研究成果

#### Papers

1. Platelet surface GPIIb/IIIa, activated GPIIb-IIIa, and P-selectin levels in adult veno-arterial extracorporeal membrane oxygenation patients. *Platelets*. 2020 Dec 7;1-7. doi: 10.1080/09537104.2020.1856360
2. Designing a scoring system for differential diagnosis from reactive thrombocytosis and essential thrombocytosis. *Front Med (Lausanne)*. 2021 Dec 16; 8:736150. doi: 10.3389/fmed.2021.736150.
3. New presentations and exacerbations of immune thrombocytopenia after coronavirus disease 2019 vaccinations: the Taiwan experience. *Platelets*. 2022 May 19;33(4):531-535. doi: 10.1080/09537104.2022.2042237.
4. Flow cytometry for evaluating platelet immunophenotyping and function in patients with thrombocytopenia. *Tzu Chi Med J*. 2022 Jul 26;34(4):381-387. doi: 10.4103/tcmj.tcmj\_117\_22.
5. Abnormal platelet immunophenotypes and percentage of giant platelets in myelodysplastic syndrome: A pilot study. *PLoS One*. 2022 Nov 21;17(11):e0278040. doi: 10.1371/journal.pone.0278040.
6. Platelet Activation and Cytokine Release of Interleukin-8 and Interferon-Gamma-Induced Protein 10 after ChAdOx1 nCoV-19 Coronavirus Vaccine Injection. *Vaccines (Basel)*. 2023 Feb 16;11(2):456. doi: 10.3390/vaccines11020456.
7. Correlation of Hematological Indices and Acute-Phase Reactants in Rheumatoid Arthritis Patients on Disease-Modifying Antirheumatic Drugs: A Retrospective Cohort Analysis. *J Clin Med*. 2023 Dec 11;12(24):7611. doi: 10.3390/jcm12247611.
8. Improving platelet function following prophylactic platelet transfusion in patients with hematological malignancies. *Int J Lab Hematol*. 2024 Apr 29. doi: 10.1111/ijlh.14283. Online ahead of print.