

實驗微免學

Microbiology and Immunology Techniques

A. 需參加 4 場核心實驗室的儀器認證，自 110/7-111/6/10 都算，111/6/18 前由班代收集

學習護照交給周君華。

B. 並選擇下列至少 4 項重要技術課程，通過實作合格之後，才取得必修課實驗微免學 1 學分。

技術課程部分

	老師	課程與相關要求	學生名單
1	陳振暉	課程：細菌突變株建構 選擇本課程者，須將抗生素抗性基因與細菌如 E.coli 特定基因作置換以得到特定基因被剔除，且將帶有抗生素抗性基因之突變株，並以 PCR 方式確認特定基因已被抗性基因置換無誤，方得此技術的認證。	
2	凌 斌	課程：Innate immune recognition of virus infection (Experimental Immunology in Pin Ling Lab) 1. Learn 293 cell culture and transfection 2. Learn viral infection or PRR stimulation by synthetic ligands 3. Learn the luciferase reporter assay	
3	王淑鶯	課程：Protein expression and purification Students will learn how to express recombinant proteins in E. coli system and how to purify proteins using immobilized metal affinity chromatography (IMAC). Students should be able to obtain protein with high purity.	
4	陳舜華	1. Cell culture: Students should be able to maintain and subculture a cell line without contamination for two weeks. 2. Plaque assay: Students should be able to determine viral titers in samples by plaque assay on appropriate cell monolayers.	
5	彭貴春	課程：Immunohistochemistry staining technique 1. Students will learn how to prepare samples for the IHC. 2. Student will learn how to block and reduce the background in	

		<p>IHC staining.</p> <ol style="list-style-type: none"> Student will learn how to set up a proper control for the IHC staining Student will be able to show what the positive results and capture publication quality images 	
6	張志鵬	<p>課程：流式細胞技術 (Flow cytometry)</p> <p>選擇流式細胞技術課者，須先接受必帝公司流式細胞儀一天的講習課程之後，於張志鵬老師實驗室安排的時間，根據下列的實驗流程，親自做小鼠脾臟細胞或人週邊血液，分析 T-淋巴細胞及 B-淋巴細胞的比例，其結果在範圍之內，才算完成此技術的認證。</p>	
7	萬書鈺	<p>課程：Active immunization mouse model</p> <p>Students will learn how to intraperitoneally or subcutaneously immunize mice with recombinant proteins and how to perform submandibular blood collection. Students will also learn how to determine antibody titers in mouse serum by ELISA assay. Students should be able to conduct animal experiments independently.</p>	
8	林威辰	<p>課程：Living cell time lapse observation technique</p> <ol style="list-style-type: none"> Students will learn how to take several images per second or just one image every couple of minutes. Students will be able to image and distinguish different sub-cellular structures simultaneously within one experiment through the use of multiple staining. 	