

Outline of medical immunological experiments

Serial number	Experiment name	Hours allocation(in total of 24)	Experiment contents summary	Experiment type	Experiment request	Main instrumentation, student number/group, etc.
1	Immunological detected principle and related techniques	1	Immunological detection techniques: The principles , characteristic and effects of antigen and antibody binding <i>in vitro</i> .	Demonstration	Necessary	All students
2	Agglutination Reaction Precipitation Reaction	3	Glass precipitation reaction, test tube agglutination reaction. Double Radial Immunodiffusion Test. Countercurrent Electrophoresis Test, etc. The indirect Enzyme-Linked Immunosorbent Assay	comprehensiveness	Necessary	Test desk, sterile work platform, electrophoresis apparatus, alcohol burner, glass drying oven, test tube, etc. Four students/group.
3	Complement assay, B cell staining, phagocytosis Assay, lymphocytes transformation assay	4	Hemolytic Assay Involved by Complement. Spleen B cell staining + fluorescence microscope observation, small phagocytosis assay, big phagocytosis assay. lymphocytes transformation assay, etc.	comprehensiveness	Necessary	Test desk, sterile work platform, experiment animal, alcohol burner, glass drying oven, etc. Four students/group.
4	Lymphocytes subset Identification, cytotoxic assay	5	Mouse spleen CD4, CD8 T cells stained by fluorescence antibody and analyzed by fluorescence microscope. CD8, CD56 cells isolated by MACS. CD8, CD56 cells isolated	Design	Necessary	Test desk, sterile work platform, experiment animal, fluorescence microscope, MACS , flow cytometry, CO2

			by MACS, and the results of CD8 cytotoxic, and NK cytotoxic assays analyzed by flow cytometry			incubator, alcohol burner, glass drying oven, etc. Four students/group.
5	Cytokine detection	3	Detecting IFN- γ in supernatant of transformed lymphocytes as well detecting anti-2019-nCoV antibody, etc.	Groundbreaking	Necessary	Test desk, sterile work platform, ELISAKits, ELIASA-DECTION, etc. Four students/group.