
高雄醫學大學 102 學年度 研究所碩士班 招生考試 系所：醫學研究所碩士班 基礎組
科目：微生物與免疫學

請務必於試卷紙上作答，違者該科不於計分。

Explain functions of the followings. (3 points for each, 30%)

1. Class switch recombination
2. Regulatory T cell
3. Integrase of retrovirus
4. Primase-helicase of *Escherichia coli*
5. Inflammasome
6. Major histocompatibility complex
7. Tuberculin test
8. γ -Interferon
9. RPR test (rapid plasma reagin test)
10. Phagolysosome

Explain the application of the following techniques (4 points for each, 20%)

1. RNA interference
2. Flow cytometry
3. Confocal microscopy
4. Yeast two-hybrid assay
5. Pseudovirus transduction

Essay questions

1. Please describe the biomedical significances of “Human Microbiome Project” revealed in recent years. (10%)
2. In 2012, the childhood vaccination program enforced by Center for Disease Control, ROC (Taiwan) targets eleven infectious agents. Accordingly, please write the name of FIVE infectious agents and describe their associated diseases and vaccine characteristics. (5 points for each, 25%)
3. Please describe the immune responses during the progression of human immunodeficiency virus (HIV) infection in the adults with respect to (1) dendritic cells, (2) CD4+, CD8+ T cells, (3) antibodies and B cells. (5 points for each, 15%)