

系所組別： 生理學研究所甲、乙組

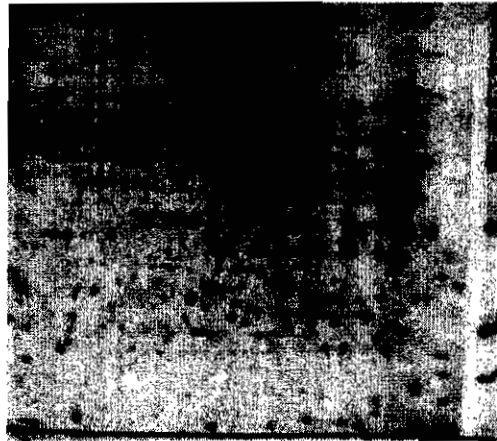
考試科目： 生命科學及技術

考試日期：0308、節次：3

※ 考生請注意：本試題 可 不可 使用計算機

1. The Nobel Prize in Physiology or Medicine 2008 has been awarded to Harald zur Hausen, Françoise Barré-Sinoussi and Luc Montagnier. What are their main discoveries (20%)?

2. A graduate student performed an experiment and obtained data shown as the following figure. What kind of technique did he use? What are the key procedures to obtain this result (20%)?



3. Southern and Northern blotting are powerful tools in molecular biology based on hybridization of nucleic acids. How are these techniques the same? How do they differ? Give some specific applications for each blotting technique (20%)?

4. Two methods for functionally inactivation a gene without altering the gene sequence are by dominant-negative mutations and RNA interference. Describe how each method can inhibit expression of a gene (20%)?

5. Please define the following biological terms (20%).

- A. Green fluorescent protein
- B. micro RNA
- C. Embryonic stem cells
- D. Proteome