

編號: G 431 系所: 生物化學暨分子生物學研究所甲組 科目: 生物技術概論

本試題是否可以使用計算機:  可使用,  不可使用 (請命題老師勾選)

一、問答題共十題, 總分100分。請務必依題號順序於答案卷上作答, 否則不予計分。

1. Describe the common characteristics of the plasmid vector used in expressing the proteins in prokaryotic cell, *E. coli*. The characteristics include self-propagation, selection, cloning, and expression. (10%)
2. Describe the common characteristics of the plasmid vector used in expressing the proteins in eucaryotic cell, such as mouse cells. The characteristics include self-propagation, selection, cloning, and expression. (10%)
3. Compare the advantages and disadvantages in expressing proteins in prokaryotic or eukaryotic cell. (10%)
4. Describe the use of oncolytic virus in cancer gene therapy (10%)
5. Describe the development of anti-angiogenic drug in cancer therapy. (10%)
6. The efficacy of gene therapy is dependent on the delivery method, please describe the common delivery method of sending genes into the eukaryotic cells. (10%)
7. Describe small interference RNA and its medical application. (10%)
8. Describe the property of stem cells and its medical application. (10%)
9. Describe the principle of nanotechnology and its medical application. (10%)
10. Describe the difference between production of monoclonal and polyclonal antibody. (10%)