

慈濟大學 95 學年度
研究所碩士班招生考試命題紙

科目：分子生物學

共1頁

問答題：

1. Please describe how an eukaryotic pre-messenger RNA is spliced. (15%)
2. What is Li-Fraumeni syndrome? (10%)
3. Explain the following techniques used in molecular biology: a) Northern blot, b) reporter system. (10%)
4. List one complete signal transduction pathway from cell surface to gene transcription. (15%)
5. 請說明 death receptor-induced apoptosis 之作用機轉。 (15%)
6. 請說明細胞骨架 (cytoskeleton) 如何調控細胞分裂。 (10%)
7. Which is the following sequence that can be recognized and cut by restriction enzyme? Please give your explanation. (10%)
(A) $\begin{array}{c} \text{GAAAAG} \\ \text{CTTTT} \end{array} \text{C}$ (B) $\begin{array}{c} \text{G|AATTC} \\ \text{CTTAAG} \end{array}$ (C) $\begin{array}{c} \text{G|AATTC} \\ \text{CTTAA} \end{array} \text{G}$ (D) $\begin{array}{c} \text{GAAAAG} \\ \text{CTTTTC} \end{array}$
8. Please write down the full name of RNAi, siRNA, miRNA, please explain and compare their function. (15%)