

1. Please describe the functions of caspases and Bcl-2 family proteins in apoptosis. (10%)
2. Please describe the mechanisms involved in moving substances across cell membranes and give examples of proteins participate in these processes. (10%)
3. Please explain the following techniques and give 2 examples (or experimental designs) of their applications in cell biology. (10% each)
 - i. CRISPER-Cas9
 - ii. Super-resolution microscopy
 - iii. Gene silencing
 - iv. Fluorescence microscopy
4. Please describe the functions of the following proteins/complexes (5% each)
 - i. Integrin
 - ii. Ras
 - iii. Kinesin
 - iv. Voltage-gated Na⁺ channel
 - v. Sialyl-transferase
 - vi. G-protein coupled receptor
 - vii. t-SNARE
 - viii. Cyclin-dependent kinases

試題隨卷繳回