

※下列題目請標明題號，依序作答於試卷內「非選擇題作答區」。可用中文或英文作答※

- 一、 Please list the similarities and differences between small G proteins versus GPCR coupled G-proteins. (10%)
- 二、 Please use a figure to describe the “spindle assembly checkpoints” for cell cycle regulation. (5%)
- 三、 The 2012 Nobel Prize on Physiology and Medicine was awarded to two stem cell researchers. Please describe their research achievements and provide your opinion about the importance of their findings. (10%)
- 四、 Studies using *C. elegans* provided importance evidences on the regulation on cell death control. Please briefly describe these landmark studies. (5%)
- 五、 The fundamental feature of cancer is tumor clonality. Please describe an experiment demonstrate the phenomenon. (5%)
- 六、 Please provide three examples how proto-oncogens turned into oncogens. (5%)
- 七、 Please describe how the dynamic instability model explains microtubule polymerization behavior. (10%)
- 八、 Please compare the differences between the stationary cisternae model and the cisternal maturation model that explain the movement of lipids and proteins in the Golgi complex. (10%)
- 九、 Please explain the effects and underlying mechanisms of histone acetylation and chromatin remodeling on the control of gene expression. (10%)
- 十、 Please describe the process of cotranslational import of proteins into the endoplasmic reticulum (ER). (10%)
- 十一、 Please describe the following terms (20 %):
 - (1) CREB
 - (2) MPF
 - (3) Cohesin
 - (4) Caspase
 - (5) Oncogen addiction
 - (6) Yeast two-hybrid system
 - (7) *trans*-acting factor
 - (8) SNARE hypothesis
 - (9) Hydropathy index
 - (10) Gene conversion

試題隨卷繳回