

Study guide 10

Lecture 14-15

1. What are commonly used methods to analyze cell cycle?
2. What are generally used model systems to study cell cycle?
3. Be able to tell the different cell cycle phase and the correct order. Generally what happens in each cell cycle phase?
4. What are three checkpoints in cell cycle control?
5. How to define synchronized and unsynchronized cells?
6. Be able to tell the important players in cell cycle control: cyclins, cdks(kinase and phosphatase to regulate its activity), cdk inhibitors, APC/C complex, SCF complex, etc. know how each execute its functions.
7. Be able to tell the sequential order of different cyclins in cell cycle progression
8. Generally know how DNA replication can be precisely controlled.
9. Be able to tell what happens in each mitosis phase.
10. How is spindle assembled? Two different mechanisms. What are the key players in each? How do these key players work in a coordinated manner?
11. Know how kinetochore is attached to the sister chromatids? How could they eliminate any errors?
12. How could sister chromatids move toward the spindle pole?
13. There are two stages of chromosome segregation in anaphase, what factors play key roles in each stage?
14. Be able to tell the different cases of growth uncoupled division.
15. How does DNA damage cause cell cycle arrest, what are the key players in it?
16. What are mitogens, how do they generally promote cell cycle progression?