Study guide 11

Lecture 16-17

1. What are the features of apoptosis? Understand that it happens normally
2. Tell the difference between apoptosis and necrosis.
3. Understand that deregulation of apoptosis can result in human diseases.
4. Generally know common methods to detect apoptotic cells.
5. Apoptosis can be triggered extrinsically or intrinsically.
6. How extrinsic apoptosis is triggered, what are the key players, and how is it generally regulated?
7. How is intrinsic apoptosis triggered, what are the key players, and how do they generally work?
8. Be able to tell the different categories of Bcl-2 family members and their general functions in regulating intrinsic cell apoptosis.
9. Know that apoptosis can be evaded in cancer cells, this is through several different routes
10. What is autophagy? What is the biological significance?
11. Be able to tell the difference between ubiquitin mediated protein degradation and lysosome mediated organells/protein degradation.
12. How are the key genes involved in autophagy discovered? By whom?
13. There are several stages of autophagy, including initiation and elongation.
14. Generally understand that mTOR regulate the initiation of autophagy, how is it regulated? What are the important players in this critical step?
15. Generally ATG8 and ATG12 ubiquitin-like conjugation systems in trigger autophagosome elongation.
16. Be able to tell that autophagy is highly conserved in a lot of species. And deregulation of autophagy is linked to human diseases.