Homeword 3

1

Synaptic signaling	A. A telephone conversation
Paracrien:	B. Talking to people at a cocktail party
Endocrine:	C. A radio announcement
Autocrine:	D. Talking to yourself

2

A: No essential.

B: Muatants with total loss of PKA can still obtain wld type PKA through wild type strain in the hybrid, therefore mutants with total loss of PKA is recessive mutant PKA regulatory subunits need higher concentration of cAMP to be activated, even though it fuse with wild type strain these mutant PKA regulartory subunits still exist. therefore these mutans are dorminant.

3.

PDK-activated Akt directly or indirectly caused the phosphorylation of Akt on S473.

4.

This is due to different receptors recognize different cargoes. Differenet adaptor proteins bind to diferent receptors and then recruit clathrin to assembly different vesicles. This whole process is also facilitated by the membrane PI phosphorylation status which could be recognized by small GTPase, allowing precise assembly and targeting of the vesicles. Even though they share then same coating protein, the effector proteins and local environment are all different.

5

- Serves as a timer for protein degradation;
- Keep cells in distance, prevent aggregation;
- Paly roles in celluar signaling.

6

Using a GFP tag or other fluorescence probes track the movement of proteins in cells. Proteins vary types of modifications of maturation patterns. Different processing will take different enzyems to work on the cargo proteins, which result in different time to take.

7

At neutral pH, the Fe ion can be recongnized by the transferrin and bind to it, this is followed by the recongnition of Fe-

transferrin receptor on the cell surface. This is followed by the endocytosis. At the endosomes,pH became lower, Fe will dissociate from transferrin, but the transferrin will remain in a complex which transferrin receptors. This complex will then by recycled back to the plasma membrane for exocytosis, transferrin will then dissociate with the receptors at neutral pH. Finally, Fe is taken into cells for use.

8

May be:

- The point mutation causes blockage of secretory vesicles to fuse with the plasma membrane.
- The mutation causes the failure of antitrypsin to be assembled into secretory vesicle.
- This mutation may cause antitrypsin vesicle to failed targeted into the golgin apparatus.

Tagging antitrypsin mutant with GFP and ovserve its route in vesicle traffic.

Reference from Key.