Cellular communication, exam 7.4.2010

1. What is the difference between autocrine and paracrine signaling?

2. A particular antagonist for an epinephrine-receptor protein is under consideration as a new drug. What values would you use to measure how tightly the drug binds to the target protein compared to the tightness of epinephrine binding? What technique might you use to measure drug binding?

3. How do trimeric G-Proteins work and which bacterial molecules can specifically interfere with their function?

4. Which enzyme plays a role in regulating rhodopsin-induced closing of cation channels and how does it work?

5. How can protein kinase C be activated and what would be the upstream events?

6. How can receptor tyrosine kinases be subdivided and what domains are commonly found in those receptors?

7. How is PI3 kinase working and which natural mechanism exists to antagonize this action?

8. Describe the role of adapter proteins in the activation of Ras by receptor tyrosine kinases.