Internet Assignment:

G-Protein Coupled Receptors

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

<http://highered.mcgraw-hill.com/sites/0072507470/student_view0/chapter17/animation__membrane-bound_receptors_that_activate_g_proteins.html>

1. What do you call the thing that binds to a receptor?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is attached to the α–subunit of the portion of the receptor on the inside of the cell when nothing is bound to the receptor?
3. How does this change when a signal molecule binds the receptor?
4. Explain how this exchange affects the alpha subunit?
5. What determines how long this will last?
6. What inactivates the alpha subunit?

Second Messengers

<http://highered.mcgraw-hill.com/sites/0072507470/student_view0/chapter17/animation__second_messenger__camp.html>

1. What ligand is being used in this example?
2. What kind of receptor is used in this example?
3. Activation of this receptor upon binding of signal molecule stimulates what enzyme?
4. What is chemical reaction does this enzyme catalyze?
5. What is the role alpha kinase?
6. What activates alpha kinase?

Intracellular Receptor Model

<http://highered.mcgraw-hill.com/sites/0072507470/student_view0/chapter17/animation__intracellular_receptor_model.html>

1. What is aldosterone?
2. Where are aldosterone receptors located
3. Once aldosterone binds its receptor, where does it go
4. What is the effect of the aldosterone-receptor complex?
5. Where does newly synthesized mRNA go?
6. What is the response of the cell to aldosterone?
7. *Critical Thinking: Do you think all cells respond to aldosterone? Explain.*

Hormonal Communication

<http://highered.mcgraw-hill.com/sites/0072507470/student_view0/chapter17/animation__hormonal_communication.html>

1. What body system typically initiates hormonal communication?
2. What type of stimulus does this body system typically respond to?
3. What part of the brain is responsible for detecting dehydration, and specifically what type of receptor is used for this?
   1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Once dehydration is detected, what is the response?
5. What does ADH stand for?
6. How are hormones delivered to target cells?
7. What are the target cells for ADH
8. How does ADH recognize a target cell?
9. What happens when ADH binds a target cell?
10. Dehydration causes blood pressure to initially RISE / DROP
11. *Critical Thinking: Using what you know about ADH, explain what you think a diuretic is and propose a mechanism of action.*