

# AP Biology 038 – Signal Transduction Pathways

## Video Review Sheet

[www.bozemanscience.com/038-signal-transduction-pathways](http://www.bozemanscience.com/038-signal-transduction-pathways)

1. Signal Transduction Pathways start with a \_\_\_\_\_ in the form of a \_\_\_\_\_ message that is \_\_\_\_\_ into \_\_\_\_\_ within the cell.
2. Two types:
  - a. Protein \_\_\_\_\_
  - b. \_\_\_\_\_ cascade: a phosphate that has \_\_\_\_\_ is passed from one chemical to another until it eventually has an action.
3. Example with G-Protein in the Liver:
  - a. Messenger:
  - b. The messenger docks with the receptor – specifically the
  - c. Ligand: a chemical that can't make its way across a
  - d. When epinephrine binds it changes the shape of the G-Protein. What is released?
  - e. Adenylyl cyclase is initially in \_\_\_\_\_
  - f. When the alpha subunit is bound to adenylyl cyclase it converts: \_\_\_\_\_ to \_\_\_\_\_
  - g. cAMP is a \_\_\_\_\_ messenger
  - h. Protein kinase is inactivated when the \_\_\_\_\_ portions are bound.
  - i. cAMP binds to the regulatory portions and releases the
  - j. The catalytic portions of protein kinase become phosphorylated and are activated they then can act on \_\_\_\_\_ throughout the cell.
4. How did you do when you played Dora the Explorer?
5. How can this whole process be “amplified”?