VIDEO GUIDE FOR BOZEMAN BIOLOGY SIGNAL TRANSDUCTION PATHWAYS

1. How are signal transduction pathways like the musical genius of Jimi Hendrix?

2. Signal transduction pathways usually modify _____ or trigger phosphorylation _____.

3. When a signal binds to a receptor, it changes its _____

4. Epinephrine (the messenger involved in the fight or flight response) binds to the _____ receptor. Epinephrine is called the _____.

5. When epinephrine binds to the G-protein, its _____ changes and it releases a _____, which binds to _____

6. When the alpha subunit from the G-protein binds to adenyl cyclase, it is _____

7. The function of adenyl cyclase is to produce _____ from ATP.

8. Cyclic AMP binds to the _____ portions of protein kinase, releasing the _____ portions.

9. The _____-ated catalytic portions can now act upon other enzymes in the cell.

10. In review:

    a. Epinephrine is called the _____
    b. Its receptor is the _____
    c. When epinephrine binds to the G-protein, its releases a _____
    d. This subunit binds to _____ _____
    e. Adenyl cyclase converts ATP to _____ **
    f. cAMP causes the protein kinase to releases its _____ portions
    g. the catalytic portions become _____
    h. these can act upon _____ that breakdown glycogen into _____

11. How is cAMP like Jimi Hendrix's amplifier?