Cell Biology and Physiology

Exam 3 Study Guide

* Review all PowerPoints and parts of the chapters covered
* Define paracrine, autocrine and endocrine
* In signal transduction pathways, what is considered the first messenger? Second messengers?
* What is a kinase?
* What is a phosphatase?
* What is happening at each step with G-coupled protein receptors?



* Why is the epigenetic state of the cell so important when it comes to signal transduction?
* What are the 4 common types of receptors and cell signaling pathways?
* For each of these, refer to my drawings and be able to replicate and explain. (this is a big one)
* How are different MAP kinase pathways kept separate in a eukaryotic cell?
* What is cell polarity?
* What is actin? What is formin? What is Arp 2/3? How are actin filaments polymerized?
* What are myosins? How do they function? Do myosins move toward the (+) or (-) end of the actin filament?
* How does the myosin and actin work in skeletal muscle? What is a myofibril? Sarcomere? Z band?
* How does release of Ca2+ aid in muscle contraction?
* What are the 4 steps of cell migration?