

- I. General Principles
 - A. Signal transduction
 - a. cell signaling
 - b. receptors
 - c. signal transduction
 - B. Forms of signaling
 - 1. *system wide*
 - a. endocrine
 - 2. *Local*- only affect local cells
 - a. paracrine
 - b. autocrine
 - 3. *neuronal*/signaling
 - 4. *direct contact*
 - C. Binding Specificity
 - 1. effector specificity
 - 2. measurement
 - a. dissociation constant (K_d)
 - D. Cellular response
- II. Intracellular Receptors
 - A. Classes
 - B. Actions
 - 1. direct
 - 2. activate transcription
 - a. domain structure
 - b. general mode of action
 - c. homodimeric receptors
 - d. cytoplasmic receptor
 - e. heterodimeric receptors
- III. Cell Surface receptors
 - A. Overview
 - a. intracellular signaling pathway
 - b. second messengers
 - 1. Functions
 - B. Classes
 - 1. Ion-channel-coupled receptors
 - 2. G-protein-coupled receptors
 - 3. Enzyme-coupled receptors
- IV. Ion-channel-coupled Receptors