1. **RECEPTION**

2 Types of Receptors:

1. **Plasma Membrane \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Protein Receptors**

* Bind hydro\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_/ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-soluble \_\_\_\_\_\_\_\_\_\_\_\_\_\_/ proteins (= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Diffusion)

**G-Protein Coupled Receptors**

**Tyrosine Kinases**

**Ligand-Gated Ion Channels**

1. **Intracellular Receptors**

* Allow hydro\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-soluble \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to pass \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the receptor/ across the membrane

1. **TRANSDUCTION**

**Cascades**: series of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ molecules

* Help \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the signal to cause a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cell response
* Often involve
  + Example:

**Second Messengers: small,** non-proteins or \_\_\_\_\_\_\_\_\_\_that \_\_\_\_\_\_\_\_\_\_\_ cell signals

* Cause \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ cascade
  + Example:

1. **RESPONSE**

If the signal’s target response is in the:

1. **CYTOPLASM** 🡪 regulates activity of cytoplasmic \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and/or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Usually a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ response, but \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ lived
3. **NUCLEUS** 🡪 regulates \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ synthesis/ \_\_\_\_\_\_\_\_\_\_\_ expression by turning genes on/off
   1. Involves changes to DNA or mRNA (transcription, translation, methylation, etc.)
   2. Usually a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ response, but \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ lived