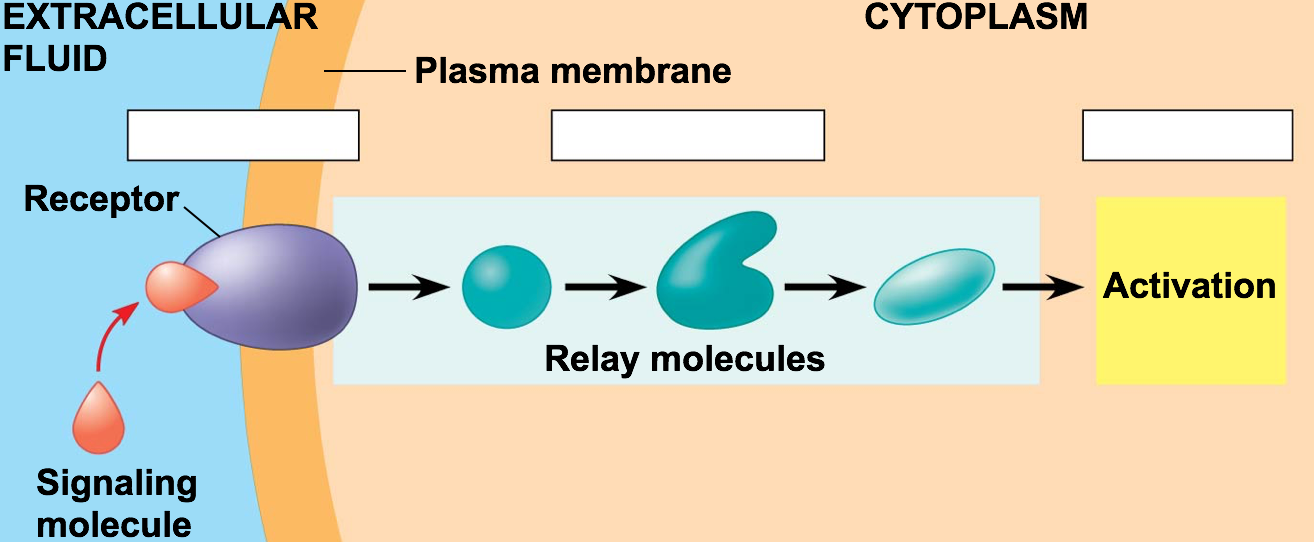
**Main Ideas Title: Cell Communication; Receptors and Transduction Pathways**

3 stages of cell

communication

Environment and Change in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Change \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Example: Epinephrine (adrenaline)

-Stress causes release from adrenal glands

-Epinephrine targets liver and muscle cells

- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that breaks apart glycogen

- Glucose is released into the blood to provide energy for the body

3 major types of 1) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Cell Membrane 2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Protein Receptors 3) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

G-Protein Background info: How it works:

Coupled Receptor

-Used in: embryonic development, taste smell

-Diseases can interfere in G-protein function:

Cholera, Pertussis, Botulism

-60% of medicines affect G-protein pathways

-

Ligand Gated Background info: How it works:

Ion Channel

-Used in: many diverse processes, nervous system

Tyrosine Kinase Background info: How it works:

Receptors

Involved in: metabolism, cell cycle

Linked to: Cancers, diabetes, bone disorders, inflammation

Signal Transduction Signal Transduction Pathway= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in which a molecule is modified and

Pathway activated, which modifies/activates another molecule…

Relay Molecules: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Example: Protein Kinases- molecules that modify/activate the next molecule by

phosphorylating it

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: small molecules, such as cyclic AMP or Ca+, that can

be used to activate relay molecules in a pathway

Example 1: Phosphorylation Cascade

Example 2: Secondary Messengers

BIG IDEA:

A series of changes during a signal transduction pathway leads to an overall change

(usually temporary) in the cell!

I feel different…



Summary