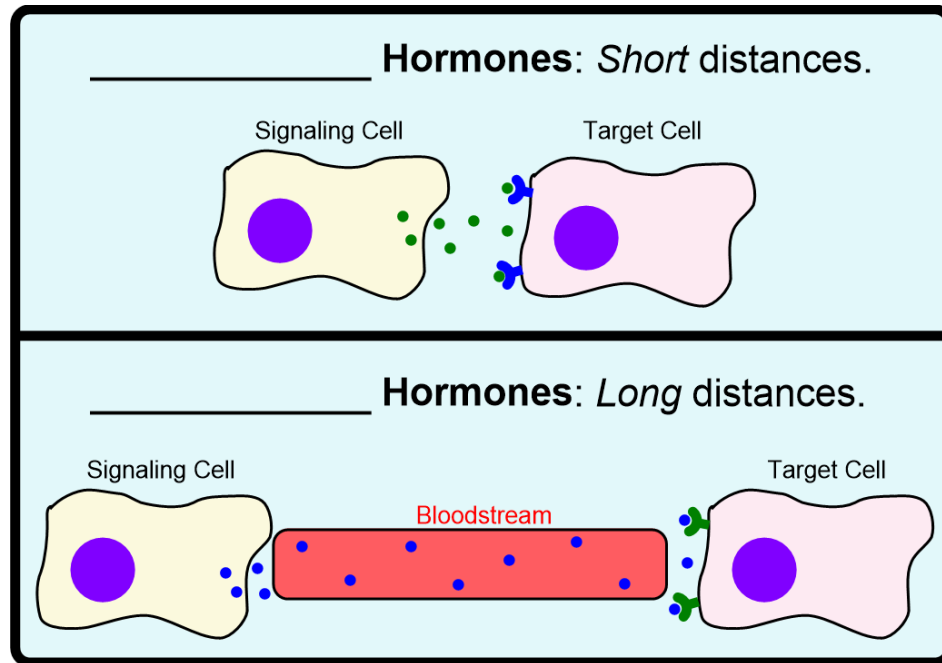


## CONCEPT: LIPID HORMONE SIGNALING

- Recall: \_\_\_\_\_: *signaling* molecules released by a cell/gland that can *travel* & affect *distant* cells in other areas.
  - *Paracrine Hormones*: travel \_\_\_\_\_ distances & only act on *nearby* cells in the vicinity of its synthesis.
  - *Endocrine Hormones*: released into bloodstream & travel \_\_\_\_\_ distances to their target cell.



**PRACTICE:** What is the major difference between paracrine and endocrine signaling?

- a) Paracrine signaling regulates nearby cells, and endocrine signaling regulates target cells far away.
- b) Paracrine signaling regulates target cells far away, and endocrine signaling regulates nearby cells.
- c) Paracrine signaling regulates target cells with action potentials, endocrine signaling regulates with hormone signals.
- d) Endocrine signaling regulates target cells with action potentials, paracrine signaling regulates with hormone signals.
- e) None of the above are correct.

**PRACTICE:** Upon secretion, a chemical messenger (hormone) binds its receptors on other cells that were nearby. The hormone was secreted in such low concentration that it did not have any effect on distant cells, even though those distant cells had the appropriate receptors. We would best classify this hormone as a(n):

- a) Endocrine hormone.
- b) Paracrine hormone.
- c) Autocrine hormone.
- d) Both an autocrine hormone and an endocrine hormone.

## CONCEPT: LIPID HORMONE SIGNALING

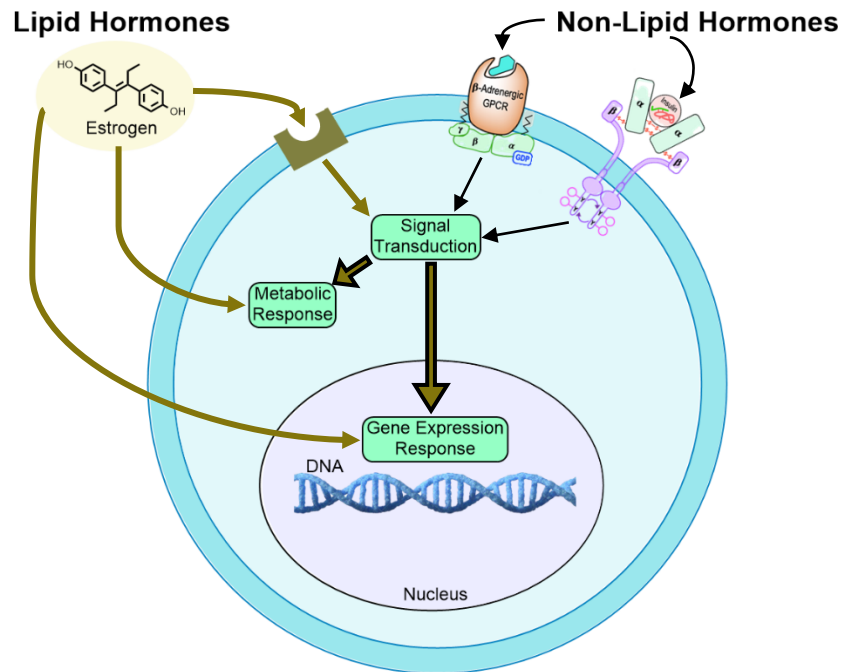
### Lipid Hormones Diffuse Through Plasma Membranes

● Most hormones are *proteins* (ex. insulin), *amino-acid derivatives* (ex. epinephrine) or *steroids* (ex. estrogen).

□ Recall: \_\_\_\_\_ Hormones: hydrophobic molecules derived from cholesterol.

● Lipid hormones commonly bind \_\_\_\_\_ receptors inside cells (either in the cytoplasm or nucleus).

□ \_\_\_\_\_-lipid hormones bind exclusively to \_\_\_\_\_ portions of receptors in plasma membrane.



**PRACTICE:** The main difference between hormones that have intracellular receptors and those that have cell membrane receptors is that the former tend to be \_\_\_\_\_:

- |             |                            |                 |
|-------------|----------------------------|-----------------|
| a) Larger.  | c) Amino acid derivatives. | e) Hydrophobic. |
| b) Charged. | d) Proteins.               |                 |