

Chapter 45: Hormones and the Endocrine System – Worksheet

Name _____

- 1) Which of the following statements about hormones is incorrect?
 - A) They are produced by endocrine glands.
 - B) They are modified amino acids, peptides, or steroid molecules.
 - C) They are carried by the circulatory system.
 - D) They are used to communicate between different organisms.
 - E) They elicit specific biological responses from target cells.

- 2) The secretion of hormone A causes a change in the amount of protein X in an organism. If this mechanism works by positive feedback, which of the following statements represents that fact?
 - A) An increase in A produces an increase in X.
 - B) An increase in X produces a decrease in A.
 - C) A decrease in A produces an increase in X.
 - D) A and B are correct.
 - E) B and C are correct.

- 3) What do nitric oxide and epinephrine have in common?
 - A) They both function as neurotransmitters.
 - B) They both function as hormones.
 - C) They are both involved in the "fight-or-flight" response.
 - D) Only A and B are correct.
 - E) A, B, and C are correct.

- 4) Substance X is secreted by one cell, travels a short distance through interstitial fluid, and produces an effect in a cell immediately adjacent to the original secreting cell. All of the following terms could describe this substance except
 - A) nitric oxide.
 - B) neurotransmitter.
 - C) prostaglandin.
 - D) pheromone.
 - E) growth factor.

- 5) Which of the following examples is incorrectly paired with its class?
 - A) histamine-local regulator
 - B) estrogen-steroid hormone
 - C) prostaglandin-peptide hormone
 - D) ecdysone-steroid hormone
 - E) neurotransmitter-local regulator

- 6) Only certain cells in the body are target cells for the steroid hormone aldosterone. Which of the following is the best explanation for why these are the only cells that respond to this hormone?
 - A) Only target cells are exposed to aldosterone.
 - B) Only target cells contain receptors for aldosterone.
 - C) Aldosterone is unable to enter nontarget cells.
 - D) Nontarget cells destroy aldosterone before it can produce its effect.
 - E) Nontarget cells convert aldosterone to a hormone to which they do respond.

- 7) Frequently, very few molecules of a hormone are required to affect changes in a target cell. This is because
 - A) hormones are lipid-soluble and readily penetrate the membranes of the target cell.
 - B) hormones are large molecules that remain in circulation for months and can repeatedly stimulate the same cell.
 - C) the mechanism of hormonal action involves an enzyme cascade that amplifies the response to a hormone.
 - D) the mechanism of hormonal action involves the rapid replication of the hormone within the target cell.
 - E) the mechanism of hormonal action involves memory cells that have had prior contact with the hormone.