

Chapter 39 Endocrine and Reproductive Systems

Section 39–1 The Endocrine System (pages 997–1002)

Key Concepts

- What is the function of the endocrine system?
- How does the endocrine system maintain homeostasis?

Introduction (page 997)

1. What makes up the endocrine system? _____

2. What do the products of the endocrine system do? _____

Hormones (page 997)

3. Chemicals released in one part of the body that travel through the bloodstream and affect the activities of cells in other parts of the body are called _____.
4. How do hormones affect the activities of other cells? _____

5. Cells that have receptors for a particular hormone are referred to as _____.
6. Is the following sentence true or false? Cells without receptors are not affected by hormones. _____
7. Is the following sentence true or false? Generally, the body's responses to hormones are quicker and shorter lasting than the responses to nerve impulses. _____

Glands (page 998)

8. An organ that produces and releases a substance, or secretion, is called a(an) _____.
9. What is an exocrine gland? _____

10. Glands that release sweat, tears, and digestive juices are considered _____ glands.

11. What is the function of the parathyroid glands? _____

Match the endocrine gland with the hormone it produces.

| Endocrine Gland | Hormone It Produces |
|--------------------|---------------------|
| _____ 12. Pineal | a. Glucagon |
| _____ 13. Thyroid | b. Melatonin |
| _____ 14. Pancreas | c. Epinephrine |
| _____ 15. Thymus | d. Thyroxine |
| _____ 16. Adrenal | e. Thymosin |
| _____ 17. Ovary | f. Testosterone |
| _____ 18. Testis | g. Estrogen |

19. The hormone that regulates metabolism is _____.

Hormone Action (page 999)

20. List the two general groups into which hormones may be classified.

- a. _____
 b. _____

21. Circle the letter of each sentence that is true about steroid hormones.

- a. They are lipids.
 b. They cannot cross cell membranes.
 c. They help regulate gene expression.
 d. They can enter the nucleus.

22. Is the following sentence true or false? Steroid hormones are produced from cholesterol. _____

23. Circle the letter of each sentence that is true about nonsteroid hormones.

- a. They are proteins, small peptides, or modified amino acids.
 b. They can cross cell membranes.
 c. They rely on secondary messengers.
 d. They cannot enter the nucleus.

24. Is the following sentence true or false? Secondary messengers may include calcium ions, cAMP, nucleotides, and fatty acids. _____

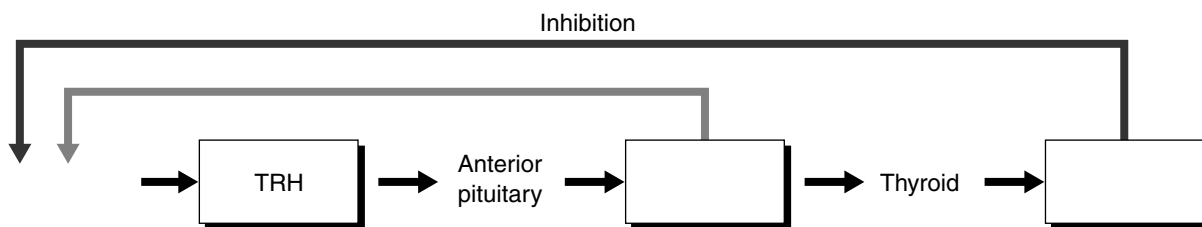
Prostaglandins (page 1000)

25. Hormonelike substances produced by other kinds of cells and tissues are called _____.

26. Why are prostaglandins known as “local hormones”? _____
27. Is the following sentence true or false? Some prostaglandins cause smooth muscles to contract. _____

Control of the Endocrine System (pages 1000–1001)

28. When does feedback inhibition occur? _____
29. Fill in the missing labels in the diagram to show how the thyroid gland is regulated by feedback controls.



30. Circle the letter of each event that occurs when core body temperature begins to drop.
- The hypothalamus produces less TRH.
 - More TSH is released.
 - Less thyroxine is released.
 - Metabolic activity increases.
31. Is the following sentence true or false? As you lose water, the concentration of dissolved materials in the blood falls. _____

Complementary Hormone Action (page 1002)

32. What is complementary hormone action? _____
33. Is the following sentence true or false? Calcitonin increases the concentration of calcium in the blood. _____
34. If calcium levels drop too low, the parathyroid glands release _____.
35. How does PTH increase calcium levels? _____
36. Why is the regulation of calcium levels so important? _____