An Introduction to Behavioral Endocrinology 6th edition Nelson Test Bank

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Test Bank

to accompany

An Introduction to Behavioral Endocrinology, Sixth Edition

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Chapter 2: The Endocrine System

Multiple Choice Questions

1. The endocrine functions of the pancreas are limited to _____-cells.
a. α
b. β
c. δ
d. All of the above
Answer: d
Learning Objective: Identify the major endocrine glands and their hormones, and answer three general questions: where do hormones come from, where do hormones go, and what do hormones do?

2. Gonadal sex (differentiation) depends on
a. estrogens.
b. chromosomal sex.
c. androgens.
d. gender differences.
Answer: b
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3. Hormones are secreted
a. into the circulatory system by glands.
b. by every cell in the body.
c. into the synaptic cleft by ducts.
d. only during prenatal development.
Answer: a
Learning Objective: Identify the major endocrine glands and their hormones, and answer three general questions: where do hormones come from, where do hormones go, and what do hormones do?

4. Polypeptide and monoamine hormones typically
a. bind with receptors in the cell nucleus.
b. bind with receptors in the cell membrane.
c. produce effects within seconds following secretion.
d. bind with low affinity to receptors.
Answer: b

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Learning Objective: Describe the different mechanisms of actions for the various types of hormones, including steroid, protein/peptide, monoamine, and lipid-based hormones.

5. The pituitary is often referred to as the "master gland," but it is itself controlled by the
a. adenohypophysis.
b. hippocampus.
c. neurohypophysis.
d. hypothalamus.
Answer: d
Learning Objective: Identify the major endocrine glands and their hormones, and answer three general questions: where do hormones come from, where do hormones go, and what do hormones do?

6. What factor directly causes the Wolffian duct system to develop into the male accessory organs (epididymis, vas deferens, and seminal vesicles)?
a. Expression of testis determination factor (TDF) gene on the Y chromosome
b. Secretion of testosterone by the testes
c. Secretion of Müllerian regression hormone by Sertoli cells
d. Secretion of estrogen by the ovaries
Answer: b
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7. What is the name of the hormone (discovered in 1994) that is secreted by adipose cells?
a. Bombesin
b. Leptin
c. *ob*
d. CCK
Answer: b
Learning Objective: Describe the different mechanisms of actions for the various types of hormones, including steroid, protein/peptide, monoamine, and lipid-based hormones.

8. Which statement about steroids is true?
a. Steroids are made from cholesterol.
b. Different steroids all have the same function.
c. Estrogens are only found in females.
d. Androgens are only found in males.
Answer: a
Learning Objective: Describe the different mechanisms of actions for the various types of hormones, including steroid, protein/peptide, monoamine, and lipid-based hormones.

9. One of the primary differences between hormones and neurotransmitters is that
a. neurotransmitters bind with specific receptor types.
b. hormones are expelled from the cell through exocytosis.

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c. neurotransmitters depolarize target membrane.
d. hormones are secreted into the circulatory system.
Answer: d
Learning Objective: Describe the different mechanisms of actions for the various types of hormones, including steroid, protein/peptide, monoamine, and lipid-based hormones.

10. Hormones are generally regulated
a. through a positive feedback system.
b. through a negative feedback system.
c. by exocrine glands.
d. by paracrine glands.
Answer: b
Learning Objective: Describe negative and positive feedback effects of hormonal regulation.

11. Which of the following is *not* a feature of the endocrine system?
a. Hormones are secreted to the blood stream.
b. Endocrine glands have a rich blood supply.
c. Each endocrine gland secretes only one type of hormone.
d. Endocrine glands are ductless.
e. Hormones travel in the blood to every cell in the body. Thus, they can interact with any cell that expresses the appropriate receptor.
Answer: c
Learning Objective: Identify the major endocrine glands and their hormones, and answer three general questions: where do hormones come from, where do hormones go, and what do hormones do?

12. Which hormones are secreted by the posterior pituitary gland?
a. Oxytocin and growth hormone
b. Tropic hormones and oxytocin
c. Vasopressin and melatonin
d. Vasopressin and oxytocin
Answer: d
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13. Which of the following is *not* located at the periphery?
a. The pineal gland
b. The adrenal gland
c. The pancreas
d. The thyroid gland
Answer: a
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14. Pheromones are an example of what type of chemical communication?
a. Autocrine
b. Paracrine
c. Ectocrine
d. Intracrine
Answer: c
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15. Polypeptide and monoamine hormones typically
a. bind with receptors in the cell nucleus.
b. bind with receptors in the cell cytoplasm.
c. activate a second messenger cascade.
d. require a carrier protein to travel through the blood.
Answer: c
Learning Objective: Describe the different mechanisms of actions for the various types of hormones, including steroid, protein/peptide, monoamine, and lipid-based hormones.

16. All of the following are regulated by hypothalamic stimulation of the pituitary *except*
a. calcitonin.
b. LH.
c. growth hormone.
d. ACTH.
Answer: a
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Short Answer Questions

17. List three major endocrine glands. Give an example of a hormone secreted from each, and then list a primary function of each hormone.
Answer: Answers will vary but may include (1) gonads, estradiol or testosterone, sexual differentiation and sex differences in adult behavior; (2) adrenal cortex, cortisol, regulation of energy balance and the stress response; or (3) pancreas, insulin, regulation of metabolism and energy utilization and storage.

18. List three of the four major vertebrate steroid hormones.
Answer: Examples include progestins, androgens, and estrogens.

19. List three of the four classes of hormones
Answer: Examples include peptides, proteins, and monoamines.

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20. Describe the enzymatic pathway in which tryptophan is transformed to melatonin and state for each step whether it happens during the day or night.
Answer: During the day, tryptophan hydroxylase converts tryptophan into 5-hydroxytryptophan. Aromatic L-amino acid decarboxylase then converts 5-hydroxytryptophan into serotonin. During the night, serotonin is further converted into N-acetylserotonin by N-acetyltransferase and subsequently converted into melatonin by the HIOMT enzyme.

21. Why was the discovery of kisspeptin significant for the field of reproductive biology?
Answer: Kisspeptin is the most potent stimulator of the GnRH system identified to date and is required for puberty and the maintenance of adult sexual behavior. In females, it is crucial for ovulation.

Essay/Discussion Questions

22. Compare and contrast the physical properties and mechanisms of action for steroid and peptide hormones.

23. Describe three different methods used to measure hormone concentrations in the blood. Provide advantages and disadvantages of each technique.

24. Describe one major endocrine gland. In your description, include where the gland is located, what its primary physiological function is, and how its hormonal messages are transduced.

25. Compare and contrast the properties of simple negative and positive feedback.

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