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University of Buea

**Faculty of Health
Sciences**



**Programme in
Medicine**

MED304

**(GENERAL ENDOCRINOLOGY)
CA-(2008-2009)**

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Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question. Each correct answer is ½ mark.

- _____ 1. Which statement(s) regarding endocrine glands is/are incorrect?
- they produce hormones.
 - they secrete their products into the blood.
 - they are comprised of epithelial tissue.
 - they are all controlled by the nervous system.
 - they are ductless.
- _____ 2. Neurosecretory neurons
- release neurotransmitters.
 - release hormones.
 - are unable to conduct action potentials, unlike ordinary neurons.
 - Both release neurotransmitters and are unable to conduct action potentials, unlike ordinary neurons.
 - Both release hormones and are unable to conduct action potentials, unlike ordinary neurons.
- _____ 3. The specificity of hormones is due to
- specialized hormone secretion.
 - molecular rearrangement at the site of action.
 - specific binding of hormones to plasma proteins.
 - specialization of target-cell receptors.
 - discrete inactivation of hormones by the liver or kidneys.
- _____ 4. Hormones
- are all of similar chemical composition.
 - combine with specific receptors on the target cell's surface or inside the target cell.
 - are secreted at a constant rate.
 - all act by activating adenylate cyclase, which transforms ATP into cyclic AMP.
 - All of these answers.
- _____ 5. All hormones
- are regulated by the hypothalamus.
 - initiate synthesis of new proteins.
 - are secreted by endocrine glands through ducts into the blood.
 - must combine with specific receptors on the target cells in order to exert their effects.
 - are produced in a gland and target cells in different tissues.
- _____ 6. Which of the following is true about hormones?
- are released from exocrine glands.

- b. interact with receptors at target-cell sites.
- c. are synthesized in the lymph nodes.
- d. interact with receptors in the blood.
- e. are all similar chemically.

- _____ 7. Which of the following statements concerning hormones is incorrect?
- a. a single endocrine gland may produce multiple hormones.
 - b. a single target cell may be influenced by more than one hormone.
 - c. a single hormone can influence only one type of target cell.
 - d. an endocrine organ may exert nonendocrine functions in addition to secreting hormones.
 - e. the same hormone may be secreted by more than one endocrine gland.
- _____ 8. Select the incorrect statement about peptide hormones.
- a. they include adrenal cortex hormones.
 - b. insulin is an example.
 - c. they are stored within secretory granules in the cell.
 - d. they are secreted from endocrine glands.
 - e. they must bind to membrane receptors to invoke their actions.
- _____ 9. Which statement regarding tropic hormones is incorrect?
- a. they may stimulate the secretion of other hormones.
 - b. they target other glands.
 - c. they are all produced in the anterior pituitary.
 - d. Both (a) and (b) above.
 - e. All these answers.
- _____ 10. Which of the following is not a function of the endocrine system?
- a. maintenance of blood sugar levels.
 - b. regulation of metabolic activity and H₂O and electrolyte balance.
 - c. promotion of growth and development
 - d. transduction of external stimuli.
 - e. helping the body cope with stressful situations.
- _____ 11. Which of the following is not controlled at least in part by hormones?
- a. homeostasis.
 - b. organic metabolism.
 - c. rapid interactions with the external environment.
 - d. H₂O and electrolyte balance.
 - e. adaptation to stress.
- _____ 12. Tropic hormones
- a. are produced by the posterior pituitary.
 - b. are secreted only by the hypothalamus.
 - c. primarily regulate hormone secretion by certain other endocrine glands.
 - d. all have nontropic functions, too.
 - e. are the hormones that stimulate athletes to win trophies.
- _____ 13. Hormones are classified into the following three types:
- a. amines, peptides, and steroids.
 - b. amines, steroids, and phospholipids
 - c. amines, phospholipids, and steroids.
 - d. amines, free fatty acids, and peptides.
 - e. free fatty acids, peptides, and steroids.
- _____ 14. Amines
- a. consist of a chain of specific amino acids of varying length.
 - b. are derived from the amino acid tyrosine.

- c. include the hormones secreted by the thyroid gland and adrenal medulla.
- d. Both (a) and (c) above.
- e. All of these answers.

15. Which of the classes of hormones are polar and, accordingly, hydrophilic and lipophobic?

- a. peptides
- b. catecholamines
- c. steroids
- d. Both peptides and catecholamines are correct.
- e. All of these answers.

16) Which of the following hormones acts on its target tissues by steroid hormone mechanism of action? (A) Thyroid Hormone (B) PTH (C) ADH (D) β_1 adrenergic agonists (E) Glucagon

17) Which of the following hormones originate in the anterior pituitary? (A) GnRH (B) GhRh (C) TSH (D) Oxytocin (E) ADH

18) Which of the following inhibit the secretion of GH by the anterior by the anterior pituitary? (A) GhRH (B) GH (C) Somatomedins (D) Hypoglycemia (E) Sleep

19) Which of the following explains the suppression of lactation during pregnancy? (A) Blood prolactin levels are too low for milk production to occur (B) Human placental lactogen levels are too low for milk production to occur (C) The fetal adrenal gland does not produce sufficient estriol (D) Blood levels of estrogen and progesterone are high (E) The maternal anterior pituitary is suppressed

20) Which of the following results from the action of PTH on the renal tubules? (A) Inhibition of 1α -hydroxylase (B) Stimulation of Ca^{2+} resorption in the distal tubules (C) Stimulation of phosphate reabsorption in the proximal tubule (D) Interaction with receptors on the luminal membrane of the proximal tubular cells. (E) Decrease urinary excretion of cAMP

21) Which of the following decreases the conversion of 25-hydrocholecalciferol to 1,25-dihydrocholecalciferol? (A) A diet low in Ca^{2+} (B) Hypocalcemia (C) Hyperparathyroidism (D) Hypophostamia (E) Chronic Renal Failure.

22) Which of the following hormones acts by an IP_3 - Ca^{2+} mechanism of action? (A) 1,25-dihydrocholecalciferol (B) Progesterone (C) Insulin (D) PTH (E) GnRH

23) Which of the following causes increased aldosterone secretion? (A) Decreased blood Volume (B) Administration of ACE Inhibitors (C) Hyperosmolarity (D) Hypokalemia (E) None of the above

Questions 24-26: (A) T_3 (B) T_4 (C) Diiodotyrosine (DIT) (D) TSH (E)

Iodide (I) : Match each numbered description involving thyroid hormones with the correct substance.

24) Deiodination of this substance in the target tissues produces the most form of thyroid hormone

25) In Graves' disease, blood levels of this hormone will be decreased

26) Propylthiouracil can be used to reduce the synthesis of thyroid hormones in the hyperthyroidism because it inhibits oxidation of this substance.

Questions 27-29: (A) Insulin (B) Glucagon (C) Somatostatin (D) Pancreatic Lipase : Match each numbered description with the appropriate pancreatic secretory product.

27) Inhibits the secretion of both insulin and glucagons

28) Receptor has four subunits, two of which have tyrosine kinase activity

29) Secretion is inhibited by the other pancreatic hormones

20) Selective destruction of zona glomerulosa of the adrenal cortex would produce a deficiency of which hormone? (A) Cortisol (B) Aldosterone (C) Testosterone (D) Androstenedione (E) Dehydroepiandrosterone.

Good Luck

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