

# General Endocrinology Test

(MED 303)

## Second Continuous Assessment

Friday, 15th January 2010 : 8<sup>00</sup>-9<sup>00</sup>

- .....
- (1) The endocrine system (a) Releases chemicals into the bloodstream for distribution throughout the body (b) Releases hormones that can alter the metabolic activities of many different tissues and organs (c) Produces effects that can last for hours, days, or even longer (d) Can alter the gene activity of cells (e) All of the above
  - (2) Each of the following is an amino acid derivative EXCEPT (a) Epinephrine (b) melatonin (c) Thyroxine (d) TSH (e) GH
  - (3) When adenylyl cyclase is activated (a) cAMP is formed (b) cAMP is degraded (c) G proteins are replicated in a semiconservative fashion (d) steroid hormones enter the cell via receptor-mediated endocytosis (e) None of the above
  - (4) Which of the following hormones does not act via second messenger system? (a) Glucagon (b) epinephrine (c) GH (d) Testosterone (e) ACTH.
  - (5) What hypophyseal structure receives signals from the hypothalamus via the hypophyseal portal system? (a) Follicular medulla (b) Adenohypophysis (c) Pars intermedia (e) Suprachiasmatic nucleus.
  - (6) Low blood glucose typically results in secretion of all of the following EXCEPT: (a) Glucagon (b) thyroxine (c) hGH (d) PTH (e) 3 of the above.
  - (7) Which of the following is a function of glucocorticoids? (a) increased inflammatory response (b) increased blood glucose concentration (c) decreased lipolysis (d) increased creatine hydrolysis by osteocytes and increased osteoclast activity.
  - (8) What hormone increases intestinal calcium absorption (a) calcitriol (b) calcitonin (c) parathormone (d) pancreatic polypeptide (e) GnRH.
  - (9) Which of the following is a function of TSH? (a) Activation of thyroid follicular cells (b) Increase of iodine trapping in follicular cells (c) increased thyroglobulin synthesis (d) increase release of T4 (e) all of the above.
  - (10) The ..... Cells of the pancreas secrete insulin (a) chief (b) principal (c) alpha (d) beta (e) delta.
  - (11) The general adaptation syndrome is activated by the: (a) hypothalamus (b) adrenal gland (c) pituitary gland (d) thyroid gland (e) epinephrine.
  - (12) Say you ate 25 sugar cubes and then drank a liter of water, which hormone might be secreted in large amounts as a result? (a) insulin (b) glucagon (c) prolactin (d) GnRH (e) somatostatin.
  - (13) Somatostatin is secreted by the: (a) pancreatic F cells (b) pancreatic delta cells (c) zona fasciculata (d) Parafollicular cells (e) Bronchial clara cells.
  - (14) A tumor in the adrenal zona glomerulosa may cause hypersecretion of the hormone in that region. Which of the following might you expect to find in a patient with such a tumor? (a) increased blood sodium levels (b) increased blood glucose levels (c) decreased blood calcium levels (d) increased dehydration (e) increased ketoacidosis.
  - (15) Oxytocin is secreted by the (a) adenohypophysis (b) neurohypophysis (c) zona glomerulosa (d) pars intermedia (e) cervical stretch receptors.

- (16) A lack or decrease in insulin hormone receptor on cells can result in: (a) diabetes insipidus (b) type I diabetes mellitus (c) Type II diabetes mellitus (d) insulin-dependent diabetes mellitus (e) gestational diabetes.
- (17) The general adaptation syndrome: (a) is a mechanism to maintain homeostasis when under stress (b) resets the levels of controlled conditions in the body in response to stress (c) is part of the sympathetic response (d) reduces the amount of stress encountered (e) none of the above.
- (18) Which of the following characteristics is the same for the nervous and the endocrine systems? (a) target cells affected (b) latent period for onset of actions (c) duration of actions (d) mechanism of signaling (e) None of the above.
- (19) Hyposecretion of cortisol can cause: (a) cretinism (b) diabetes mellitus (c) diabetes insipidus (d) Addison's disease (e) Grave's disease.
- (20) Protein hormones bind to specific receptors that are located \_\_\_\_\_ of target cells (a) free in the cytoplasm (b) in the plasma membrane (c) in either the cytoplasm or nucleus (d) attached to DNA (e) in the nucleus
- (21) A hormone that is secreted by one cell, diffuses and acts on neighboring cells is said to act through a \_\_\_\_\_ route. (a) autocrine (b) apocrine (c) exocrine (d) paracrine
- (22) Elevated concentrations of cyclic AMP within a cell are often associated with an increase in protein phosphorylation, because cyclic AMP activates \_\_\_\_\_. (a) ATPase (b) adenylate cyclase (c) phosphodiesterase (d) protein kinase C (e) protein kinase A
- (23) Cretinism is a syndrome of growth and mental retardation caused by: (a) an excess of thyroid hormones early in life (b) a deficiency in parathyroid hormone originating in teenagers (c) a deficiency in thyroid hormones originating in teenagers (d) a deficiency in thyroid hormones early in life (e) an excess of thyroid hormones originating in teenagers (f) an excess of parathyroid hormone originating in teenagers
- (24) Which of the following is the best description of the chemical nature of the thyroid hormones thyroxine and triiodothyronine? derivatives of fatty acids (a) large peptides (b) proteins (c) a type of carbohydrate (d) modified tyrosines (e) modified nucleotides
- (25) Which of the following is the best description of the distribution of thyroid hormone receptors within the body: occur in almost all cells except liver (b) occur almost exclusively in liver cells (c) present in most if not all cells (d) present only in reproductive organs and brain (8) An uncorrected deficiency in which of the following hormones would lead to lethal imbalances in sodium and potassium: (a) norepinephrine (b) epinephrine (c) cortisol (d) aldosterone
- (26) Adrenocorticotropic hormone, or ACTH, was named because it stimulates the cortex of the adrenal gland. Which adrenal hormone causes negative feedback to shut off ACTH secretion? (a) epinephrine (b) cortisol and aldosterone (c) cortisol (d) epinephrine and cortisol (e) aldosterone (d) aldosterone and epinephrine
- (27) What is the major mechanism by which glucocorticoids and mineralocorticoids affect their target cells? (a) causing increased oxygen uptake (b) alteration of transcription of specific genes within the cell (c) enhancing or suppressing translation of cellular mRNAs (d) stimulating generation of cyclic AMP (e) causing assembly of ribosomes
- (28) Cortisol, and its synthetic derivatives, are commonly used as drugs because they: (a) stimulate muscle growth (b) eliminate bacterial infections (c) suppress inflammation (d) enhance cognitive function (e) stimulate an increase in blood levels of calcium
- (29) The receptor for epinephrine is: (a) an intracellular protein found in the cytoplasm that is moved to the nucleus after epinephrine binds (b) a membrane-bound receptor in the inner mitochondrial membrane (c) a transmembrane protein found in the plasma membrane of target cells (d) a receptor present in the nuclei of target cells (e) a type of steroid
- (30) Which of the following is the best description of the structure of insulin? (a) a large glycoprotein (b) a fatty acid derivative (c) a two-chain peptide hormone (d) a type of modified amino acid (e) a steroid.

Dr. Salah