Chapter 39 Standardized Test Prep

TEST TIP When using a diagram to answer a question, look at the image for evidence that supports your answer.

Science Concepts

1. If a change in the body causes more change in the same direction, the system is called
- **A** feedback inhibition.
- **B** negative feedback.
- **C** positive feedback.
- **D** neutral feedback.

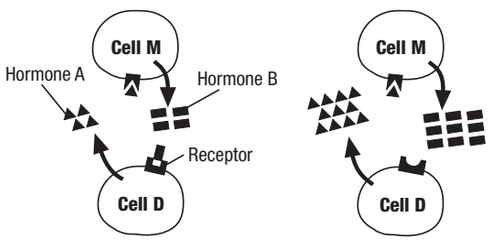
2. Which of the following is a function of hormones?
- **F** making cAMP
- **G** causing stress
- **H** regulating movement
- **J** regulating metabolism

3. Which is produced by the testes?
- **A** oxytocin
- **B** estrogen
- **C** testosterone
- **D** progesterone

4. In what way do amino acid–based hormones use cyclic AMP?
- **F** as a receptor
- **G** as a coenzyme
- **H** as a target cell
- **J** as second messenger

Using Science Graphics

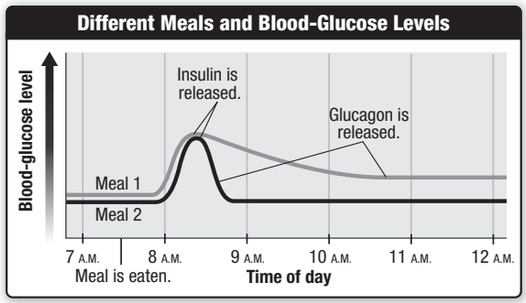
The diagram shows a feedback mechanism. Hormone A triggers cell M to release hormone B. Hormone B inhibits the release of hormone A. Use the diagram to answer the following question(s).



5. In the disease state, which structure is defective?
- **A** hormone A
- **B** hormone B
- **C** cell M receptor
- **D** cell D receptor

6. What happens in the disease state?
- **F** Cell D cannot produce hormone A.
- **G** Hormone A increases because of a lack of hormone B.
- **H** Hormone A increases because cell D cannot detect hormone B.
- **J** Cell M does not secrete any hormone B because cell M is not stimulated.

The diagram shows the change in blood-glucose levels after two different meals. Use the diagram to answer the following question(s).



7. Which of the following statements is true?
- **A** Meal 1 causes no increase in blood glucose.
- **B** Meal 2 causes no increase in blood glucose.
- **C** Meal 1 causes a sharp decrease in blood glucose shortly after eating.
- **D** Meal 2 causes a sharp decrease in blood glucose shortly after eating.

8. Complex carbohydrates and proteins allow glucose to be released slowly into the bloodstream. From this information and from the diagram, what can you infer about meal 1?
- **F** It contains a lot of protein.
- **G** It contains a lot of simple sugars.
- **H** It will cause a large production of glucagon.
- **J** It includes two doughnuts and a glass of juice.

Writing Skills

9. Short Response Write a paragraph comparing the way steroid hormones affect cells with the way amino acid–based hormones affect cells.

Answers

1. C **2.** J **3.** C
4. J **5.** D **6.** H
7. D **8.** F

9. Paragraphs will vary but should include the following: Steroid hormones enter a target cell, bind to a receptor, and cause a change in the actions of the cell by direct gene activation. Amino acid-based hormones cannot enter the cell. They bind to a receptor on the surface of the cell and cause changes in the cell by use of a second messenger.

TEST DOCTOR

Question 1 **A** is incorrect because feedback inhibition would slow or stop the resulting change. **B** is incorrect. In negative feedback, the change would be in the opposite direction. **C** is correct because both changes are in the same direction. **D** is incorrect because neutral feedback has no effect.

Question 2 **F** is incorrect because cAMP is a second messenger. **G** is incorrect. Although hormones help in handling stress they do not cause stress. **H** is incorrect because movement is regulated by the nervous system. **J** is correct. Hormones regulate metabolism.

Question 3 **A** is incorrect. Oxytocin is produced in the hypothalamus. **B** is incorrect because estrogen is produced in the ovaries. **C** is correct. Testosterone is an androgen produced in the testes. **D** is incorrect. Progesterone is also produced in the ovaries.

State Resources



For specific resources for your state, visit go.hrw.com and type in the keyword HSHSTR.

Test Practice with Guided Reading Development