Hormones and the Endocrine System Worksheet

The Body’s Activity Are Coordinated

Mark each statement below T if it is true or F if it is false.

_____ 1. Hormones are substances secreted by cells that act to regulate the activities of other cells in the body.

_____ 2. Hormones are always carried in the bloodstream from one cell to another.

_____ 3. A hormone carries one signal that has the same effect in all of the cells that receive the signal.

_____ 4. Hormones coordinate the production, use and storage of energy.

_____ 5. Hormones do not react to stimuli from outside the body.

Hormones are made in Certain Organs and Tissues

Read each question, and write your answer in the space provided.

6. What are the differences between endocrine glands and exocrine glands?

7. Why are neurotransmitters not considered hormones?

8. Distinguish between the hormone epinephrine and the neurotransmitter epinephrine.

9. What are neuropeptides?

10. What are prostaglandins, and what is their function?

Hormones Act on Specific Cells

Complete each statement by underlining the correct term or phrase in the brackets.

1. A [target / receptor] cell is a specific cell on which a hormone acts.

2. A receptor is a [protein / fatty acid] to which a molecule binds.

3. Amino-acid-based hormones are generally [water / fat] soluble.

4. The body makes steroid hormones from [cholesterol / proteins].
Study the following steps showing how an amino-acid-based hormone changes the activities of its target cells. Determine the order in which the steps take place. Write the number of each step in the space provided.

______ 5. The second messenger activates or deactivates certain enzymes in a cascade fashion.
______ 6. A second messenger is activated.
______ 7. The activity of the target cell is changed by the final enzyme in the cascade.
______ 8. The shape of the receptor protein changes.
______ 9. An amino-acid-based hormone binds to a receptor protein.

Study the following steps showing how a steroid hormone changes the activities of its target cells. Determine the order in which the steps take place. Write the number of each step in the space provided.

______ 10. The hormone attaches to a receptor in the cytoplasm, forming a hormone-receptor complex.
______ 11. Proteins that alter the cell’s activities, such as enzymes, are made.
______ 12. The steroid hormone passes through the cell membrane.
______ 13. A gene in the DNA is activated, and transcription and translation take place.
______ 14. The hormone-receptor complex enters the nucleus of the cell and binds to the DNA.
Endocrine System

A. Pituitary Gland: (                     )
   -
   -
   Some pituitary hormones
   1. TSH       (                     )
   -
   2. FSH       (                     )
   -
   3. Growth Hormones
   -

B. Thyroid Gland:
   -
   - Thyroxin -

C. Parathyroid Gland:
   -
   - Parathormone-

D. Adrenal: (                     )
   2 hormones:
   - Adrenaline
   - Cortisol

E. Islets of Langerhans:
   -
   Hormones
   1. Insulin
   2. Glucagon
F. Gonads: (sex glands)

1. Male:
   Testes: ( )

2. Female:
   Ovaries:
   -
   (Estrogen)

Feedback Mechanism:

_________________________ → _________________________ → _________________________

Malfunctions of the Endocrine System:

1. Goiter:

2. Diabetes:
   -
   -
   -
   -
The human endocrine glands