

The Endocrine System

I. Introduction to the endocrine system

A. Functions

B. Method of control

1. Endocrine glands

2. Hormones

a. Means of travel

b. Target cells

c. Speed of control

II. Endocrine glands

A. Pituitary gland

1. Location

2. Adenohypophysis

a. Growth hormone (GH)

i. Target organs

ii. Function

b. Thyroid-stimulating hormone (TSH)

i. Target organ

ii. Function

c. Adrenocorticotrophic hormone (ACTH)

i. Target organs

ii. Function

d. Gonadotropins

i. Follicle-stimulating hormone (FSH)

A. Target organs

B. Function

ii. Luteinizing hormone (LH)

A. Target organs

B. Functions

e. Prolactin (PRL)

i. Target organs

ii. Function

3. Neurohypophysis

a. Oxytocin

i. Target organs

ii. Functions

b. Antidiuretic hormone (ADH)

i. Target organs

ii. Function

B. Thyroid gland

1. Location

2. Follicle cells

a. Thyroid hormone (TH)

i. Target organs

ii. Functions

- 3. Parafollicular cells**
 - a. Calcitonin**
 - i. Target organs**
 - ii. Function**
- C. Parathyroid glands**
 - 1. Location**
 - 2. Chief cells**
 - a. Parathyroid hormone (PTH)**
 - i. Target organs**
 - ii. Function**
- D. Adrenal glands**
 - 1. Location**
 - 2. Adrenal cortex**
 - a. Zona glomerulosa**
 - i. Mineralocorticoids (aldosterone)**
 - A. Target organs**
 - B. Functions**
 - b. Zona fasciculata**
 - i. Glucocorticoids (cortisol)**
 - A. Target organs**
 - B. Functions**
 - c. Zona reticularis**
 - 3. Adrenal medulla**
 - a. Catecholamines (epinephrine and norepinephrine)**
 - i. Target organs**
 - ii. Functions**
- E. Pancreas**
 - 1. Location**
 - 2. Pancreatic islets**
 - a. Alpha (α) cells**
 - i. Glucagon**
 - A. Target organ**
 - B. Function**
 - b. Beta (β) cells**
 - i. Insulin**
 - A. Target organs**
 - B. Function**
- F. Gonads**
 - 1. Ovaries**
 - a. Location**
 - b. Estrogens**
 - i. Target organs**
 - ii. Functions**
 - c. Progesterone**
 - i. Target organs**
 - ii. Functions**

- 2. Testes
 - a. Location
 - b. Testosterone
 - i. Target organs
 - ii. Functions

- G. Pineal gland
 - 1. Location
 - 2. Melatonin
 - a. Target organs
 - b. Functions

- H. Thymus
 - 1. Location
 - 2. Thymosins
 - a. Target organs
 - b. Function

III. Other hormone-producing organs

- A. Hypothalamus
- B. Heart
- C. Gastrointestinal tract
- D. Placenta
- E. Kidneys
- F. Skin
- G. Adipose tissue
- H. Skeleton