

# Chapter 7: Endocrine System Intro

- Hormones
- The classification of hormones
- Control of hormone release
- Hormone interactions
- Endocrine pathologies

# Hormones: Function

- Control
  - Rates of enzymatic reactions
  - Transport of ions or molecules across cell membranes
  - Gene expression and protein synthesis

# Hormones I

Location	Hormone	Primary Target(s)	Main Effect(s)
Pineal gland	Melatonin [A]	Brain, other tissues	Circadian rhythms; immune function; antioxidant
Hypothalamus (N)	Trophic hormones [P] (see Fig. 7.8)	Anterior pituitary	Release or inhibit pituitary hormones
Posterior pituitary (N)	Oxytocin [P] Vasopressin (ADH) [P]	Breast and uterus Kidney	Milk ejection; labor and delivery; behavior Water reabsorption
Anterior pituitary (G)	Prolactin [P] Growth hormone (somatotropin) [P]  Corticotropin (ACTH) [P] Thyrotropin (TSH) [P] Follicle-stimulating hormone [P] Luteinizing hormone [P]	Breast Liver Many tissues Adrenal cortex [P] Thyroid gland Gonads Gonads	Milk production Growth factor secretion Growth and metabolism Cortisol release Thyroid hormone synthesis Egg or sperm production; sex hormone production Sex hormone production; egg or sperm production

## KEY

G = gland

C = endocrine cells

N = neurons

P = peptide

S = steroid

A = amino acid-derived