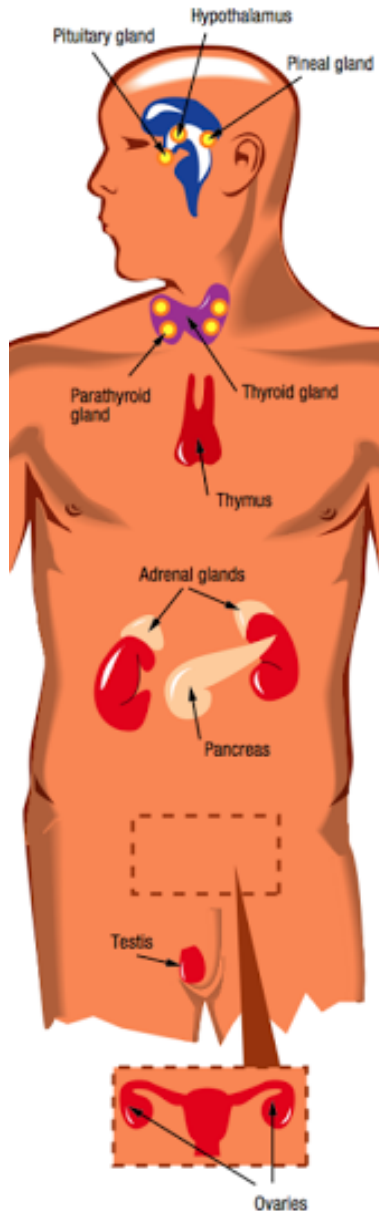


## Endocrine System



Gland	Hormone	Type	Action
Hypothalamus	Oxytocin	Peptide	Moves to posterior pituitary for storage
	Antidiuretic hormone	Peptide	Moves to posterior pituitary for storage
	Regulatory hormones of anterior pituitary hormones		Act on anterior pituitary to stimulate or inhibit hormone production
Pituitary gland			
	Posterior		
	Oxytocin	Peptide	Initiates labor, initiates milk ejection
	Antidiuretic hormone	Peptide	Stimulates water resorption by kidneys
	Anterior		
Growth hormone	Protein	Stimulates body growth	
Prolactin	Protein	Promotes lactation	
Follicle-stimulating hormone	Glyco-protein	Stimulates follicle maturation and production of estrogen; stimulates sperm production	
Luteinizing hormone	Glyco-protein	Triggers ovulation and production of estrogen and progesterone by ovary; promotes sperm production	
Thyroid-stimulating hormone	Glyco-protein	Stimulates release of T <sub>3</sub> and T <sub>4</sub>	
Adrenocorticotropic hormone	Peptide	Promotes release of glucocorticoids and androgens from adrenal cortex	
Thyroid gland	T <sub>3</sub> (Triiodothyronine)	Amine	Increases metabolism, blood pressure, regulates tissue growth
	T <sub>4</sub> (Thyroxine)	Amine	Increases metabolism, blood pressure, regulates tissue growth
	Calcitonin	Peptide	Childhood regulation of blood calcium levels through uptake by bone
Parathyroid gland	Parathyroid hormone	Peptide	Increases blood calcium levels through action on bone, kidneys and intestine
Pancreas	Insulin	Protein	Reduces blood sugar levels by regulating cell uptake
	Glucagon	Protein	Increases blood sugar levels
Adrenal glands			
	Adrenal medulla		
Epinephrine	Amine	Short-term stress response: increased blood sugar levels, vasoconstriction, increased heart rate, blood diversion	
Norepinephrine	Amine	Short-term stress response: increased blood sugar levels, vasoconstriction, increased heart rate, blood diversion	
Adrenal cortex			
	Glucocorticoids	Steroid	Long-term stress response: increased blood glucose levels, blood volume maintenance, immune suppression
Mineralocorticoids	Steroid	Long-term stress response: blood volume and pressure maintenance, sodium and water retention by kidneys	
Gonads			
	Testes		
	Androgens	Steroid	Reproductive maturation, sperm production
Ovaries			
	Estrogens	Steroid	Reproductive maturation, regulation of menstrual cycle
Progesterone	Steroid	Regulation of menstrual cycle	
Pineal gland	Melatonin	Amine	Circadian timing
Thymus	Thymosin	Peptide	Development of T lymphocytes

# Human Endocrine System

Endocrine glands produce hormones that control many body functions.

## Pituitary gland

Responding to signals from the hypothalamus, the pituitary gland releases hormones some of which control other endocrine glands.

## Parathyroid gland

These four patches of tissue on the thyroid gland release the parathyroid hormone, which regulates the blood calcium level.

## Thymus

Thymosin, which stimulates the development of T cells for the immune system, is secreted by the thymus.

## Adrenal glands

The adrenal glands make epinephrine and norepinephrine, two hormones which cause the "fight or flight" response. They also secrete aldosterone, which affects the body's osmotic balance, and cortisol, which promotes glucose synthesis.

## Hypothalamus

The hypothalamus makes hormones that control the pituitary gland. It also makes the hormones ADH and oxytocin, which are stored in the pituitary gland.

## Pineal gland

The pineal gland secretes melatonin, which controls body functions in response to daylight and seasonal changes.

## Thyroid gland

The hormone thyroxine, which speeds up metabolism and helps manage growth and development, is secreted by the thyroid gland.

## Pancreas

The pancreas has patches of tissue called the islets of Langerhans, which have cells that make the hormones insulin and glucagon. Insulin and glucagon control the blood sugar level.

## Ovaries

The hormones estrogen and progesterone are made in the ovaries. They maintain the female reproductive system and secondary sex characteristics. Progesterone maintains the uterus during pregnancy.

## Testes

The testes make testosterone, a hormone that maintains the male reproductive system and secondary sex characteristics.

