

Hormones

Hormone	Source	Functions	Factors that Stimulate its Release	Factors that Inhibit (or decrease) its Release
Antidiuretic Hormone (ADH) [vasopressin]	Neurohypophysis (Posterior Pituitary Gland)	Causes Kidneys to retain water (& excrete small volumes of urine) to maintain tonicity of CSF at 300 mOsm • ↓ sweating • vasoconstriction	↑ Tonicity of body fluids	↓ Tonicity of body fluids
Oxytocin	Neurohypophysis (Posterior Pituitary Gland)	Stimulates: (1) labor contractions & (2) milk let-down during nursing	(1) baby's head engages (2) baby starts to suckle	(1) childbirth (2) baby stops suckling
Thyrotropin (Thyroid Stimulating Hormone; TSH)	Adenohypophysis (Anterior Pituitary Gland)	Stimulates Thyroid Gland to secrete Thyroxin	TRH • cold • hypoglycemia	↑ Thyroxin
Adenocorticotropin (ACTH)	Adenohypophysis (Anterior Pituitary Gland)	Stimulates the Adrenal Cortex to secrete glucocorticoids (cortisol)	CRH • stress [interleukin-1]	↑ glucocorticoids (cortisol)

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Epinephrine (Adrenalin)	Adrenal Medulla	Increases Metabolic Rate, Heart Rate, Breathing & Blood Flow to Muscles during stress states	stress state * exercise	* eating
Glucocorticoids (Cortisol) deficiency: Addison's Disease excess: Cushing's Disease	Adrenal Cortex	Raises blood Sugar level ↑ protein catabolism ↑ gluconeogenesis • anti-inflammatory action [↓ release of chemical mediators of inflammation] • immunosuppressant action [↓ lymphocyte production]	↑ ACTH (Adrenocorticotropin)	↓ ACTH (Adrenocorticotropin)
Estrogen	Ovaries (follicle cells of Ovarian Follicle)	Feminizing Hormone	↑ FSH	↓ FSH
Progesterone	Ovaries (follicle cells of Corpus Luteum)	Increases vascularization of Uterus (womb)	↑ LH	↓ LH
Testosterone	Testes	Masculinizing Hormone	↑ LH	↓ LH

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Follicle Stimulating Hormone (FSH)	Adenohypophysis (Anterior Pituitary Gland)	In males: Stimulates sperm production In females: Stimulates growth of Ovarian Follicles & Estrogen secretion	GnRH	In males: [↑ Inhibit] In females: ↑ Estrogen
Luteinizing Hormone (LH)	Adenohypophysis (Anterior Pituitary Gland)	In males: Stimulates Testosterone secretion In females: Stimulates ovulation & Progesterone secretion by the Corpus Luteum (which increases vascularity of endometrium of uterus)	GnRH	In males: ↑ Testosterone In females: ↑ Progesterone
(Human) Chorionic Gonadotropin (HCG)	Placenta	Stimulates the Corpus Luteum to secrete Progesterone (which maintains vascularity of endometrium of uterus during pregnancy)	pregnancy **the test for pregnancy is the detection of HCG	termination of pregnancy

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Growth Hormone (GH) deficiency: dwarfism excess in childhood: gigantism excess in adult: acromegaly	Adenohypophysis (Anterior Pituitary Gland)	Stimulates growth in body (esp. Skeletal System & muscles) ↑ protein synthesis ↑ glycogenolysis ↑ lipolysis	GHRH hypoglycemia	GHIH ["somatostatin"] hyperglycemia
Prolactin	Adenohypophysis (Anterior Pituitary Gland)	Stimulates Mammary Glands to produce milk	PRH nursing	PIH (dopamine) weaning the baby
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Thyroxin (T4) (and T3) deficiency in childhood: cretinism deficiency in adult: hypothyroidism ↓ cellular respiration ↓ heat production weight gain ↑ HR; ↓ BP	Thyroid Gland	Increases metabolic reactions associated with Energy production, Growth & Development ↑ cellular respiration ↑ heat production	↑ Thyrotropin (TSH)	↓ Thyrotropin (TSH)

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Insulin deficiency: Diabetes mellitus	Pancreatic Islets ("Beta cells")	↓ blood glucose level (by facilitating the uptake of glucose by tissue cells) <ul style="list-style-type: none"> • ↑ glycogenesis • ↑ lipogenesis • ↑ protein synthesis 	<ul style="list-style-type: none"> • hyperglycemia • parasympathetic action 	<ul style="list-style-type: none"> • hypoglycemia • sympathetic action
Glucagon	Pancreatic Islets ("Alpha cells")	↑ blood glucose level <ul style="list-style-type: none"> • ↑ glycogenolysis • ↑ lipolysis • ↑ protein catabolism • ↑ gluconeogenesis 	<ul style="list-style-type: none"> • hypoglycemia • sympathetic action 	<ul style="list-style-type: none"> • hyperglycemia • parasympathetic action
Parathyroid Hormone (PTH)	Parathyroid Glands	↑ blood calcium level (by ↑ bone resorption)	↓ blood calcium	↑ blood calcium
Thyrocalcitonin	Thyroid Gland (parafollicular cells)	↓ blood calcium level (by ↑ bone deposition [ossification])	↑ blood calcium	↓ blood calcium