

The Endocrine System Required Hormones
Origin – Target Tissue - Function
C17 Study Guide

Growth Hormone - GH (released by anterior pituitary gland // all cells of body // stimulate growth, anabolism, mobilize nutrients for growth)

Adrenocorticotropic Hormone – ACTH (released by anterior pituitary gland // target tissue cortex of adrenal gland // cause release of two hormones aldosterone = salt retention hormone – target tissue kidney also cortisol = anti-inflammatory hormone – targets all cells)

Thyroid Stimulating Hormone - TSH (released by anterior pituitary gland // target tissue = thyroid gland // causes release of thyroxin also commonly known as the thyroid hormone // nicknamed the gas peddle of the human body // increases metabolism of all cells)

Antidiuretic Hormone - AD (released by posterior pituitary gland // target tissue = kidney collection ducts // causes reduced urine volume which conserves water in the body)

Calcitonin (released by “C” cells of the thyroid gland // lowers blood calcium levels by moving calcium into the skeletal system)

Parathyroid Hormone - PH (released by the parathyroid gland // primary target is skeletal system // stimulate osteocytes to break down bone to increase calcium concentration in the blood)

Insulin (released by pancreas beta cells // high glucose levels in blood cause release of insulin // insulin affects most cell membranes to allow glucose to enter cells // as glucose moves into cells blood glucose concentration is reduced)

Glucagon (released by pancreas alpha cells // low glucose levels in blood causes release of glucagon // primary target is liver which under influence of glucagon breaks down stored glycogen to release glucose into the blood)

Aldosterone (released by adrenal cortex - mineralcorticoid // called the salt retention hormone // target tissue is kidney // recovers sodium which also drags water back into the body – has tendency to increase blood pressure)

Cortisol (released by adrenal cortex – glucocorticoid // target tissue most cells of body // in general stimulate formation of glucose from proteins // anti-inflammatory because it stops new protein synthesis including antibodies)

Estrogen (principle female hormone – steroid // primary source ovaries but placenta also produces hormone during pregnancy // affects many tissue including placental development, mammary gland development, fat distribution, shaping female morphology following puberty // up-regulate uterus for progesterone receptors)

Progesterone (principle female hormone – steroid // primary source corpus luteum of the ovary following release of ovum // after placenta develops also source of progesterone // required to maintain pregnancy)

Follicle Stimulating Hormone - FSH – female (released by anterior pituitary gland // target tissue primordial follicles in the ovaries // stimulate development of egg)

Lutenizing Hormone - LH - female (released by anterior pituitary gland // target tissue = maturing egg in ovary = Graffian follicle // stimulates release of egg into uterine tube but remaining cells of follicle stay on surface of ovary to form corpus luteum which then produces progesterone which is required to maintain pregnancy)

Follicle Stimulating Hormone - FSH – male (released by anterior pituitary gland // target tissue male testes seminiferous tubules to produce androgen binding hormone // this protein required to concentrate testosterone inside seminiferous tubules so spermatogenesis can occur)

Lutenizing Hormone - LH – male (released by anterior pituitary gland // target tissue male testes interstitial cells between seminiferous tubules // causes interstitial cells to produce testosterone which then becomes concentrated within seminiferous tubules due to androgen binding hormone which then allows the formation of new sperm – spermatogenesis)