Cheatography

The Endocrine System Cheat Sheet

by Taree via cheatography.com/23132/cs/6000/

Summary of Endocrine Glands and their Hormones

Hypothalamus	Releasing Hs	Secretion of Hs by the anterior pituitary
Anterior Pituitary	GH	Growth Secretion of IGF-I, organic metabolism
	TSH	Thyroid gland
	ACTH	Adrenal cortex
	Prolactin	Breast growth and milk synthesis, permissive for certain reproductive functions in the male
	Gonadotropic Hs a) FSH b)LH	Gonads a)ovarian follicle growth and estrogen secretion in spermatogenesis b)ovulation and luetenization of ovarian follicles and testosterone secretion
Intermediate Lobe	MSH	Stim melanin synthesis in melanocytes in the skin
Posterior Pituitary	Oxytocin	Milk ejection and uterine motility
	Vasopressin(ADH,AVP)	Promotes water retention by kidneys,BP
Thyroid	T3, T4	Metabolic rate, growth, brain development and function.
	Calcitonin	Plasma Calcium

Summary of Endocrine Glands and their Hormones (cont)

Parathyroid	Parathyroid Hormone	Plasma calcium and phosphate
Adrenal Cortex	Cortisol	Organic metabolism, response to stresses, immune system
	Androgens	Sex drive in women
	Aldosterone	Sodium, potassium, and acid excretion by kidneys
Adrenal Medulla	Adrenalin, Noradrenalin	organic metabolism, CVS, response to stress
Pancreas	Insulin, glucagon, pancreatic polypeptide	Plasma glucose, organic metabolism
Gonads:Female ovaries	Estrogen, progesterone	Growth and development of the reproductive system and breasts
	Inhibin	FSH
	Relaxin	Relaxation of cervix and pubic ligaments
Male: Testes	Testosterone	Growth and development of reproductive system
	Mullerian inhibiting Hormone	Regression of Mullerian Ducts
Thymus	Thymosin(Thymopoietin)	T-lymphocyte production
Kidneys	Renin(angiotensin 1-->angiotensin2h	Aldosterone secretion, BP
	Erythropoietin	Erythrocytes production

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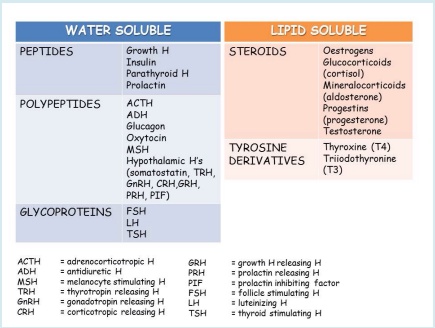
Summary of Endocrine Glands and their Hormones (cont)

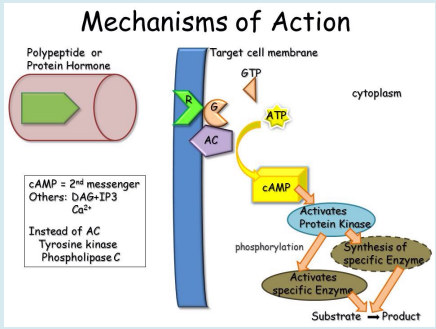
	1,25-dihydroxyvitamin D3	Calcium absorption from the intestine
Gastrointestinal tract	Gastrin secretin CCK GIP	Gastrointestinal Tract,liver,pancreas, gallbladder
	Somatostatin	Inhibition of growth hormone secretion
Liver(and other cells)	IGF, somatomedins	Growth
Pineal Gland	Melatonin	Sexual maturity, body circadian rhythms
Placenta	Chorionic Gonadtropin(hCG)	Secretion of progesterone from corpus luteum
	Placenta lactogen	Breast development and organic metabolism
	Estrogen, progesterone	Growth and dev of rep system and breasts
Heart	Atrial natriuretic factor	Sodium excretion by kidneys, BP
Monocytes and macrophages	IL-1, TNF	Cellular Immunity
Multiple cell types	Growth factors	Growth of specific tissues

Types of Hormones



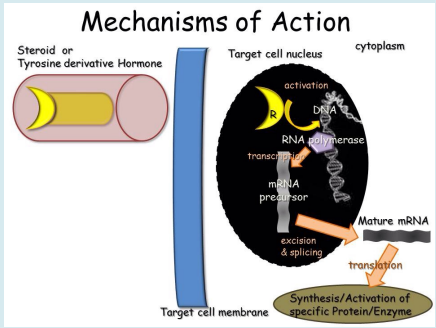
Water Soluble Hs are hydrophilic and lipid insoluble thus donot cross the cell membrane and bind the plasma membrane.
Lipid Soluble Hs are hydrophobic and water insoluble thus cross the cell membrane and bind intracellularly.

Mechanism of Peptide H action



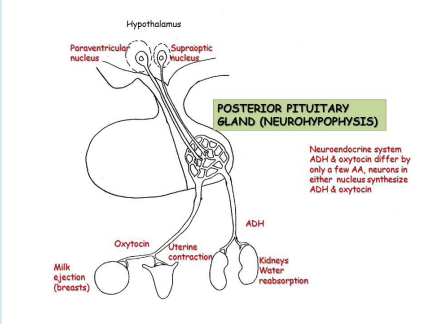
Peptides and catecholamines bind to the plasma membrane and bind cytosolic ATP to cyclic AMP(cAMP-2nd msngr)
cAMP activates cAMP dependent protein kinase
Protein kinase phosphorykates other proteins leading to a cascade of events that activates cell permeability, causes muscle contraction or relaxation, protein synthesis or secretion.

Mechanism of Steroid and Thyroid H



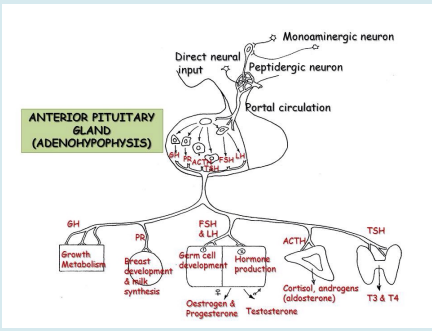
Lipid soluble Hs bind intracellularly
thyroid H receptor is bound to DNA and represses transcription
binding of THs to receptor allows for gene transcription.
Steroid Receptor is not able to bind to DNA in the absence of the H.
binding to receptor translocates the H-receptor complex to the nucleus where it initiates transcription

Hypothalamic and Pituitary Hs



The Posterior Pituitary has a neural connection with the hypothalamus.
Supraoptic nucleus synthesizes ADH
paraventricular nucleus synthesizes oxytocin.

Hypothalamic and Pituitary Hs



Ant.pit has a blood supply that connects with the hypothalamus.
produces and releases Tropic Hs released into the systemic circulation

Growth Hs

Stimulated

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