## Eicosanoid

SNo	Name	Abbreviation	Tissue	Cells	Receptor	Target Tissue	Effect
1	Prostaglandins	PG	seminal vesicle		prostaglandin receptor		
2	Leukotrienes	LT		white blood cells	G protein-coupled receptors		
3	Prostacyclin	PGI2	endothelium		prostacyclin receptor		
4	Thromboxane	TXA2		platelets	thromboxane receptor		

## Peptide

SNo	Name	Abbreviation	Tissue	Cells	Receptor	Target Tissue	Effect
1	Amylin (or Islet Amyloid Polypeptide)	IAPP	pancreas	pancreatic β-cells	amylin receptor		slowing down gastric emptying, inhibition of digestive secretion, and reducing food intake
2	Antimullerian hormone (or Müllerian inhibiting factor or hormone)	АМН	testes	Sertoli cell	AMHR2		Inhibit release of prolactin and TRH from anterior pituitary
3	Adiponectin	Acrp30	adipose tissue		adiponectin receptors		
4	Adrenocorticotropic hormone (or corticotropin)	ACTH	anterior pituitary	corticotrope	$\begin{array}{c} \text{ACTH} \\ \text{receptor} \rightarrow \\ \text{cAMP} \end{array}$		synthesis of corticosteroids (glucocorticoids and androgens) in adrenocortical cells
5	Angiotensinogen and angiotensin	AGT	liver		angiotensin receptor $\rightarrow$ IP <sub>3</sub>		vasoconstriction release of aldosterone from adrenal cortex dipsogen.
6	Antidiuretic hormone (or vasopressin, arginine vasopressin)	ADH	posterior pituitary	Parvocellular neurosecretory neurons in hypothalamus Magnocellular neurosecretory cells in posterior pituitary	several		retention of water in kidneys moderate vasoconstriction Release ACTH in anterior pituitary
7	Atrial-natriuretic peptide (or atriopeptin)	ANP	heart		ANP receptor → cGMP		
8	Brain natriuretic peptide	BNP	heart	Cardiac myocytes	NPR		(To a minor degree than ANP) reduce blood pressure by: reducing systemic vascular resistance, reducing blood water, sodium and fats
9	Calcitonin	СТ	thyroid gland	parafollicular cell	$\begin{array}{c} \text{CT receptor} \\ \rightarrow \text{cAMP} \end{array}$		Construct bone, reduce blood Ca <sup>2+</sup>
10	Cholecystokinin	ССК	duodenum		CCK receptor		Release of digestive enzymes from pancreas Release of bile from gallbladder Hunger suppressant
11	Corticotropin- releasing hormone	CRH	hypothalamus		$\begin{array}{c} \text{CRF1} \rightarrow \\ \text{cAMP} \end{array}$		Release ACTH from anterior pituitary
12	Enkephalin		Kidney	Chromaffin cells	Opioid receptor		Regulate pain
13	Endothelin		Stomach	X cells	ET receptor		Smooth muscle contraction of stomach

14	Erythropoietin	EPO	kidney	Extraglomerular mesangial cells	EpoR	Stimulate erythrocyte production
15	Follicle-stimulating hormone	FSH	anterior pituitary	gonadotrope	FSH receptor → cAMP	In female: stimulates maturation of Graafian follicles in ovary. In male: spermatogenesis, enhances production of androgen-binding protein by the Sertoli cells of the testes
16	Galanin	GAL	central nervous system and gastrointestinal tract		GALR1, GALR2, and GALR3	modulation and inhibition of action potentials in neurons
17	Gastrin	GRP	stomach, duodenum	G cell	CCK <sub>2</sub>	Secretion of gastric acid by parietal cells
18	Ghrelin		stomach	P/D1 cell	ghrelin receptor	Stimulate appetite, secretion of growth hormone from anterior pituitary gland
19	Glucagon	GCG	pancreas	alpha cells	Glucagon receptor → cAMP	glycogenolysis and gluconeogenesis in liver increases blood glucose level
20	Gonadotropin- releasing hormone	GnRH	hypothalamus		$\frac{\text{GnRH}}{\text{receptor}} \rightarrow \text{IP}_3$	Release of FSH and LH from anterior pituitary.
21	Growth hormone- releasing hormone	GHRH	hypothalamus		$\begin{array}{c} \text{GHRH} \\ \text{receptor} \rightarrow \\ \text{IP}_3 \end{array}$	Release GH from anterior pituitary
22	Human chorionic gonadotropin	hCG	placenta	syncytiotrophoblast cells	LH receptor → cAMP	promote maintenance of corpus luteum during beginning of pregnancy Inhibit immune response, towards the human embryo
23	Human placental lactogen	HPL	placenta			increase production of insulin and IGF-1 increase insulin resistance and carbohydrate intolerance
24	Growth hormone	GH or hGH	anterior pituitary	somatotropes	GH receptor	stimulates growth and cell reproduction Release Insulin-like growth factor 1 from liver
25	Inhibin		testes, ovary, fetus	Sertoli cells of testes granulosa cells of ovary trophoblasts in fetus	anterior pituitary	Inhibit production of FSH
26	Insulin	INS	pancreas	beta cells	insulin receptor, IGF-1, IGF- 2	Intake of glucose, glycogenesis and glycolysis in liver and muscle from blood intake of lipids and synthesis of triglycerides in adipocytes Other anabolic effects
27	Insulin-like growth factor (or	IGF	liver	Hepatocytes	insulin receptor,	insulin-like effects regulate cell growth and

	somatomedin)				IGF-1	development
28	Leptin	LEP	adipose tissue		LEP-R	decrease of appetite and increase of metabolism.
29	Lipotropin	LPH	anterior pituitary	Corticotropes		lipolysis and steroidogenesis, stimulates melanocytes to produce melanin
30	Luteinizing hormone	LH	anterior pituitary	gonadotropes	LHR → cAMP	In female: ovulation In male: stimulates Leydig cell production of testosterone
31	Melanocyte stimulating hormone	MSH or α- MSH	anterior pituitary/pars intermedia	Melanotroph	$\begin{array}{c} melanocortin\\ receptor \rightarrow\\ cAMP \end{array}$	melanogenesis by melanocytes in skin and hair
32	Motilin	MLN	Small intestine		Motilin receptor	stimulates gastric activity
33	Orexin		hypothalamus		$OX_1, OX_2$	wakefulness and increased energy expenditure, increased appetite
34	Oxytocin	OXT	posterior pituitary	Magnocellular neurosecretory cells	$\begin{array}{c} \text{OXT} \\ \text{receptor} \rightarrow \\ \text{IP}_3 \end{array}$	release breast milk Contraction of cervix and vagina Involved in orgasm, trust between people. and circadian homeostasis (body temperature, activity level, wakefulness).
35	Pancreatic polypeptide		Pancreas	PP cells	pancreatic polypeptide receptor 1	Self-regulation of pancreatic secretions (endocrine and exocrine). It also affects hepatic glycogen levels and gastrointestinal secretions.
36	Parathyroid hormone	РТН	parathyroid gland	parathyroid chief cell	PTH receptor → cAMP	<ul> <li>increase blood Ca<sup>2+</sup>:</li> <li>indirectly stimulate osteoclasts</li> <li>Ca<sup>2+</sup> reabsorption in kidney</li> <li>activate vitamin D</li> <li>(Slightly) decrease blood phosphate: <ul> <li>(decreased reuptake in kidney but increased uptake from bones</li> <li>activate vitamin D)</li> </ul> </li> </ul>
37	Prolactin	PRL	anterior pituitary, uterus	lactotrophs of anterior pituitary Decidual cells of uterus	PRL receptor	milk production in mammary glands sexual gratification after sexual acts
38	Prolactin releasing hormone	PRH	hypothalamus			Release prolactin from anterior pituitary
39	Relaxin	RLN	uterus	Decidual cells	RLN receptor	Unclear in humans
40	Renin		Kidney	Juxtaglomerular cells		Activates the renin-angiotensin system by producing angiotensin I of angiotensinogen
						Secretion of bicarbonate from liver, pancreas and duodenal

41	Secretin	SCT	duodenum	S cell	SCT receptor		Brunner's glands Enhances effects of cholecystokinin Stops production of gastric juice
42	Somatostatin	SRIF	hypothalamus, islets of Langerhans, gastrointestinal system	delta cells in islets Neuroendocrince cells of the Periventricular nucleus in hypothalamus	Somatostatin receptor		Inhibit release of GH and TRH from anterior pituitary Suppress release of gastrin, cholecystokinin (CCK), secretin, motilin, vasoactive intestinal peptide (VIP), gastric inhibitory polypeptide (GIP), enteroglucagon in gastrointestinal system Lowers rate of gastric emptying Reduces smooth muscle contractions and blood flow within the intestine Inhibit release of insulin from beta cells Inhibit release of glucagon from alpha cells Suppress the exocrine secretory action of pancreas.
43	Thrombopoietin	ТРО	liver, kidney, striated muscle	Myocytes	TPO receptor	megakaryocytes	produce platelets
44	Thyroid-stimulating hormone (or thyrotropin)	TSH	anterior pituitary	thyrotropes	Thyrotropin receptor → cAMP	thyroid gland	secrete thyroxine $(T_4)$ and triiodothyronine $(T_3)$
45	Thyrotropin- releasing hormone	TRH	hypothalamus	Parvocellular neurosecretory neurons	$\begin{array}{c} \text{TRHR} \rightarrow \\ \text{IP}_3 \end{array}$	anterior pituitary	Release thyroid-stimulating hormone (primarily) Stimulate prolactin release

## Steroid

SNo	Chemical class	Name	Abbreviation	Tissue	Cells	Receptor	Target Tissue	Effect
1	androgen	Testosterone		testes	Leydig cells	AR		libido, Anabolic: growth of muscle mass and strength, increased bone density, growth and strength, Virilizing: maturation of sex organs, formation of scrotum, deepening of voice, growth of beard and axillary hair.
2	androgen	Dehydroepiandrosterone	DHEA	testes, ovary, kidney	Zona fasciculata and Zona reticularis cells of kidney theca cells of ovary Leydig cellss of testes	AR		Virilization, anabolic
3	androgen	Androstenedione		adrenal glands, gonads		AR		Substrate for estrogen
								5-DHT or DHT is a male reproductive

4	androgen	Dihydrotestosterone	DHT	multiple	AR	hormone that targets the prostate gland, bulbourethral gland, seminal vesicles, penis and scrotum and promotes growth/mitosis/cell maturation and differentiation. Testosterone is converted to 5-DHT by 5alpha-reductase, usually with in the target tissues of 5-DHT because of the need for high concentrations of 5-dht to produced the physiological effects.
5	mineralocorticoid	Aldosterone		adrenal cortex (zona glomerulosa)	MR	Increase blood volume by reabsorption of sodium in kidneys (primarily) Potassium and H <sup>+</sup> secretion in kidney.
						Females:Structural:• promote formation of female secondary sex characteristics• accelerate height growth• accelerate metabolism (burn fat)• reduce muscle mass• stimulate endometrial growth• increase uterine growth• maintenance of blood vessels and skin• reduce bone resorption, increase bone formationProtein synthesis:• increase hepatic production of binding proteinsCoagulation: • increase circulating level of factors 2, 7, 9,

6	estrogen	Estradiol	E <sub>2</sub>	females: ovary, males testes	females: granulosa cells, males: Sertoli cell	ER	<ul> <li>10, antithrombin III, plasminogen</li> <li>increase platelet adhesiveness</li> </ul> Increase HDL, triglyceride, height growth Decrease LDL, fat deposition Fluid balance:
							<ul> <li>salt (sodium) and water retention</li> <li>increase growth hormone</li> <li>increase cortisol, SHBG</li> </ul>
							Gastrointestinal tract:
							<ul> <li>reduce bowel motility</li> <li>increase cholesterol in bile</li> </ul>
							Melanin:
							• increase pheomelanin, reduce eumelanin
							Cancer: support hormone-sensitive breast cancers Suppression of production in the body of estrogen is a treatment for these cancers.
							Lung function:
							• promote lung function by supporting alveoli.
							Males: Prevent apoptosis of germ cells
7	estrogen	Estrone		ovary	granulosa cells, Adipocytes	ER	
8	estrogen	Estriol	E <sub>3</sub>	placenta	syncytiotrophoblast	ER	
9	glucocorticoid	Cortisol		adrenal cortex (zona fasciculata and zona reticularis cells)		GR	Stimulation of gluconeogenesis Inhibition of glucose uptake in muscle and adipose tissue Mobilization of amino acids from extrahepatic tissues Stimulation of fat breakdown in adipose tissue anti- inflammatory and

						immunosuppressive
10	progestogen	Progesterone	ovary, adrenal glands, placenta (when pregnant)	Granulosa cells theca cells of ovary	PR	<ul> <li>Convert endometrium to secretory stage</li> <li>Make cervical mucus permeable to sperm</li> <li>Inhibit immune response, e.g. towards the human embryo.</li> <li>Decrease uterine smooth muscle contractility</li> <li>Inhibit lactation</li> <li>Inhibit lactation</li> <li>Inhibit onset of labor</li> <li>Support fetal production of adrenal mineralo- and glucosteroids</li> </ul> Other: <ul> <li>Raise epidermal growth factor-1 levels</li> <li>Increase core temperature during ovulation</li> <li>Reduce spasm and relax smooth muscle (widen bronchi and regulate mucus)</li> <li>Antiinflammatory Regulate immune response</li> <li>Reduce gall- bladder activity</li> <li>Normalize blood clotting and vascular tone, zinc and copper levels, cell oxygen levels, and use of fat stores for energy</li> <li>Assist in thyroid function and bone growth by osteoblasts</li> <li>Resilience in bone, teeth, gums. joint, tendon, ligament and skin healing by regulating collagen</li> <li>Nerve function and healing by regulating by regulating myelin</li> </ul>

					Prevent endometrial cancer by regulating effects of estrogen
11	secosteroid	Calcitriol (1,25- dihydroxyvitamin D <sub>3</sub> )	skin/proximal tubule of kidneys	VDR	Active form of vitamin D <sub>3</sub> Increase absorption of calcium and phosphate from gastrointestinal tract and kidneys inhibit release of PTH
12	secosteroid	Calcidiol (25- hydroxyvitamin D <sub>3</sub> )	skin/proximal tubule of kidneys	VDR	Inactive form of vitamin $D_3$

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