

Humans Have 219 Distinct Types of Cells (That Are Known)

Name Of Cell

What The Cell Does

Keratin (Hair and Nails)

1	Epidermal Keratinocyte	Most common skin cell on surface of body; they die and protect from infection.
2	Epidermal Basal Cell	Skin cell at base of the epidermis. Creates new skin cells to renew the epidermis.
3	Keratinocyte	Fingernails and toenails.
4	Nail Bed Basal Cell	Cells Directly under the fingernail or toe nail.
5	Medullary Hair Shaft Cell	The cells inside a hair shaft.
6	Cortical Hair Shaft Cell	The outer region of hair.
7	Cuticular Hair Shaft Cell	The nonliving outermost layer.
8	Hair Root Sheath Huxley	An inner layer of hair.
9	Hair Root Sheath Henle	An inner layer of hair.
10	Ext. Hair Root Sheath Cell	An outer layer of hair.
11	Hair Matrix Cell	A stem cell that gives rise to the hair shaft.

Wet Stratified Barrier Epithial Cells (Epithelial Cells are Tissue on Surfaces Such As Glands)

12	Surface Epithial	In cornea, tongue, anus, urethra and vagina
13	Basal Cell Stem Epithelia	In cornea, tongue, anus, urethra and vagina
14	Urinary Epithial Cell	Urinary bladder and urinary ducts.

Exocrine Secretory Epithial Cells (Surface Cells That Excrete A Substance)

15	Salivary Mucous Cells	Used for moistening and lubrication of saliva.
16	Salivary Serous Cells	Contains enzymes used for digesting carbohydrates
17	Von Ebner's Gland Cell	Gland on tongue that provides constant flow on taste buds to cleanse
18	Mammary Gland Cells	Producing milk for young.
19	Lacrimal Gland Cell	Tear secretion.
20	Ceruminous Gland Cell	Ear Wax Secretion
21	Eccrine Sweat Gland Dark	Secretes glycoprotiens in sweat
22	Eccrine Sweat Gland Clear	Secretes small molecules in sweat
23	Apocrine Sweat Gland	Glands under the arms, a different sweat, higher in proteins and fatty acids.
24	Gland of Moll Cell	In eyelid. Secretes a lipid to slow down vaporization of tears.
25	Sebaceous Gland Cell	Skin cell that secretes sebum to protect and lubricate skin.
26	Bowman's Gland Cell	Secrete mucus to clean and lubricate inside of nose.
27	Brunner's Gland Cell	Secrete mucus to clean, protect and lubricate inside of duodenum.
28	Seminal Vesicle Cell	Produces liquids that help to make up semen.
29	Prostate Gland Cell	Produces liquids that help to make up semen.
30	Cowper's Gland	Produces pre-ejaculate to flush urine, neutralize acids and lubricate urethra.
31	Bartholin Gland Cell	Produces lubrication for the vagina.
32	Gland of Littre Cell	Gland in urethra that produces mucus and adds to semen
33	Uterus Endometrium Cell	Inner membranes of uterus; essential for pregnancy, the placenta and menstrual cycle.
34	Isolated Goblet Cells	Goblet shaped in respiratory and digestive tracts; secretes mucous for lubrication.
35	Stomach Lining Mucous Cell	Secretes unique mucous to protect stomach from digestive liquids (highly acidic)
36	Gastric Gland Oxynetic Cell	Produce Hydrochloric acid for digestion; also called parietal cells
37	Gastric Gland Zymogenic Cell	In stomach releases enzyme that degrades proteins to peptides (amino acid strings).
38	Pancreatic Acinar Cell	Produces bicarbonate; maintains body's ph balance and makes digestive enzymes
39	Paneth Cell in Small Intest.	Immune system; When exposed to bacteria, secretes molecules to protect small int.
40	Pneumocyte	They wet the alveoli of the lungs to protect and increase respiration efficiency
41	Clara Cells	Protect lungs; they secretes variety of liquids to detoxify substances inhaled.

Hormone Secreting Cells

Note: The next five types of cells are in anterior lobe of the pituitary gland (which is the size of a pea)

42	Lactotropes	Produce & secretes hormones for breast milk, motor activity, sleep & learning
43	Thyrotropes	Produces and secretes hormones to regulate the thyroid gland.

44	Gonadotropes	Produces and secretes hormones to produce sperm in men and eggs in women.
45	Corticotropes	Produces & secretes hormones, controls appetite, sexual arousal, hair & skin.
46	Intermediate Pituitary Cells	Produces and secretes hormones to control melanin.
47	Magnocellular neurosecretory	In hypothalamus; cell producing oxytocin (the "hormone of love.")
48	Magnocellular neurosecretory	In hypothalamus; cell producing vasopressin (hormone increase water reabsorption in the kidneys)
49	Somatotropes	Secretes hormones that regulate growth.
50	Gut & Respiratory Tract Cell	Somatostatin secreting cell; inhibits the actions of growth hormones.
51	Gut & Respiratory Tract Cell	Serotonin secreting cell; a neurotransmitter that modulates anger, sleep & sexuality
52	Gut & Respiratory Tract Cell	Endorphin secreting cell, chemical released during exercise to give pleasure.
53	Gut & Respiratory Tract Cell	Gastrin secreting cell; stimulates release of gastric acid for digestion
54	Gut & Respiratory Tract Cell	Secretin secreting cell; secretes a base in order to regulate the pH against acids.
55	Gut & Respiratory Tract Cell	Cholecystikinin secreting cell; produces a hormone to digest fats and proteins.
56	Gut & Respiratory Tract Cell	Insulin secreting cell; a hormone which takes glucose from blood for energy.
57	Gut & Respiratory Tract Cell	Glucagon secreting cell; metabolizes carbohydrates; produced by the pancreas.
58	Gut & Respiratory Tract Cell	Bombesin secreting cell; produces negative feedback to stop eating.
59	Thyroid Epithal Cell	Secretes hormones, one of which regulates the rate of metabolism.
60	Thyroid Parafollicular Cell	Secretes hormone that reduces calcium (to regulate it).
61	Parathyroid Chief Cell	Secretes hormone that increases calcium (to regulate it).
62	Parathyroid Oxyphil Cell	Function unknown at this time.
63	Adrenal Gland Chromaffin Cell	Secretes hormones into blood that affects fight or flight response.
64	Adrenal Gland Steroid Secret Cell	Secretes hormone to regulate salt and water balance.
65	Leydig Cell	Secretes Testosterone From Testes.
66	Theca Internal Cell	In ovary, secretes estrogen.
67	Corpus Luteum Cell	Cells in follicles that secretes progesterone after follicle is released.
68	Granulosa Lutein Cells	Cell that becomes corpus luteum if follicle is fertilized. Sustains the pregnancy.
69	Theca Lutein Cells	Cells that release estrogen and androgens when follicle is released.
70	Juxtaglomerular Cell	In kidney release hormone that regulates the kidney's functions.
71	Macula Densa Cell of Kidney	Releases lipids to trigger juxtamerular cells to release hormones.
72	Extraglomerlar Cells of Kidney	Controls blood pressure in kidneys and renal system.
73	Intraglomerlar Cells of Kidney	Performs filtration, structural support and food storage in kidneys.
74	Hepatocyte Cell	In liver, protein synthesis, protein storage, bile production and storage.
75	White Fat Cell	20% of mass in people, fat cell that stores energy, also breaks down fats.
76	Brown Fat Cell	Generates body heat in new born babies.
77	Liver Iypocyte	In liver, stores vitamin A, helps repair damaged livers.
78	Kidney Glomerulus Parietal Cell	Filtration in kidneys.
79	Kidney Glomerulus Podocyte	In kidneys, regulates pH by releasing acids.
80	Kidney Proximal Border Cell	In kidneys, permeability.
81	Loop of Henle Cell	Cells that make up tubes in kidney.
82	Kidney Distal Tubule Cell	Cells that make up tubes in kidney.
83	Kidney Collecting Principle Cell	Collects sodium and potassium in kidney.
84	Kidney Coll. Intercalated Cell	Performs homeostasis.
85	Type I Pneumocyte Cell	Gas exchange in the lungs.
86	Pancreatic Duct Cell	Regulates pH in the pancreas.
87	Nonstriated Duct Cell	In mammary glands, salivary and sweat glands, balances sodium, potassium and pH.
88	Duct Cells (prostate, seminal)	Cells that make up conduit for transmission of fluids
89	Intestinal Brush Border	Cells containing microvilli (tiny hairs) used for absorption, secretion, adhesion etc.
90	Exocrine Gland Striated	Glands that secrete enzymes in ducts (i.e. prostate, liver, sweat, salivary, mammary).
91	Gall Bladder Epithelial	Cells unique to gall bladder with special pouches; GB stores bile to break down fats.
92	Ductulus efferens Nonciliated	Seminal ducts from the testes to the Epididymis (without "tiny hairs").
93	Epididymal Principal	The bulk of cells of the epididymis; sperm mature and acquire ability to swim in the epididymis.
94	Epididymal Basal Cell	Regulates electrolyte and water transport by the principal cells.

95	Blood/Lymph Vasc Fenestrated Cells	Cells with tiny openings to allow exchange between blood and tissue; they can change size.
96	Blood/Lymph Vasc Continuous Cells	Bulk of cells that make up blood vessels and lymphatic vessels.
97	Blood/Lymph Vascular Splenic Cells	Spleen's vascular cells. The spleen removes old red blood cells and fights infections.
98	Synovial Cell	Cells in joint cavities; liquid and tissue to lubricate elbows, knees, fingers etc.
99	Serous Cell	Cells of serous membranes that contain liquids in hearts, lungs, and abdomen.
100	Squamous; Perilymphatic Ear	On outside of cochlea in ear makes liquid to regulate electrochemical impulses of hair cells.
101	Squamous; Endolymphatic Ear	On outside of cochlear duct in ear makes liquid to regulate electrochemical impulses of hair cells.
102	Columnar Cell of Endolymphatic Sac with microvilli (ear)	Contains liquid of endolymph with "tiny hairs."
103	Columnar Cell of Endolymphatic Sac without microvilli (ear)	Contains liquid of endolymph without "tiny hairs."
104	Dark cell (Lining of Ear)	Endolymphatic lining of the ear.
105	Vestibular Membrane (Ear)	The membrane separating the cochlear duct from the vestibular canal of the ear.
106	Stria Vascularis basal (Ear)	Base membrane in cochlea contains numerous capillary loops and small blood vessels,
107	Stria Vascularis marginal (Ear)	Upper membrane in cochlea contains numerous capillary loops and small blood vessels,
107	Cell of Claudius (Ear)	Cells on the floor of the cochlear duct external to the organ of corti.
108	Cell of Boettcher (Ear)	Cells that support the Claudius cells; mediate calcium and ion transport.
109	Choroid Plexus	Cells that makes gland that makes liquid that surrounds brain; brain "floats" in it.
110	Pia Arachnoid Squamous	The two delicate layers of the meninges; the meninges protects the spine and brain.
111	Pigmented Ciliary (Eye)	Part of a muscle system for focusing the eye; also provides nutrients for the eye.
112	Nonpigmented Ciliary (Eye)	Part of a muscle system for focusing the eye; also provides nutrients for the eye.
113	Corneal Endothelial	The cornea is the crystal clear portion of the surface of the eye that lets light enter.
114	Respiratory Tract Ciliated	Cells sweep clean dust and germs trapped in mucus secreted by "goblet cells" (34) in the epithelium.
115	Oviduct Ciliated	The passage from the ovaries to the outside of the body (ciliated means hair like)
116	Uterine Endometrial Ciliated	Ciliated cells in uterus to assist egg movement.
117	Rete testis Ciliated	Ciliated cells in testes to assist sperm movement.
118	Ductulus Efferens Ciliated	Seminal ducts from the testes to the Epididymis with cilia.
119	Ciliated Ependymal	Membrane lining brain and spinal cord; cilia move cerebrospinal fluid.
120	Ameloblast Epithelial Cell	Cells that deposit enamel in developing teeth, the hardest substance in humans.
121	Planum Semilunatum Epithelial	Outer layer cells on the crista ampullaris, which controls balance.
122	Organ of Corti Epithelial	The organ in the inner ear of mammals that contains auditory sensory cells, or "hair cells."
123	Loose connective tissue fibroblasts	Holds epithelia (cells on surface of organ) to the organ; also promote healing.
124	Corneal fibroblasts	Holds cornea together and promotes healing.
125	Tendon fibroblasts	Holds tendons together and promotes healing.
126	Bone marrow fibroblasts	Holds bone marrow together and promotes healing.
127	Nonepithelial fibroblasts	The main function of fibroblasts is to maintain the structural integrity of connective tissues
128	Pericyte	Supports small blood vessels in brain and elsewhere; they regulate blood flow.
129	Pulpous Cell of invert. Disc	Jelly-like substance in the middle of the spinal disc. It functions to distribute hydraulic pressure in all directions within each disc under compressive loads.
130	Cementoblast	Hard tissue that covers the roots of our teeth
131	Odontoblast	Part of the outer surface of the dental pulp; biological function is the creation of dentin, the substance under the tooth enamel.
132	Hyaline Cartilage Chondocyte	Cells that protect the ends of bones by coating them with a slimy mass.
133	Fibrocartilage Chondocyte	Flexible cartilage in the hips, knees etc.
134	Elastic Cartilage Chondocyte	A type of cartilage present in the outer ear, larynx, and epiglottis (root of tongue).
135	Osteoblast/Osteocyte	Responsible for bone formation; bones are constantly being rebuilt and reshaped.
136	Osteoprogenitor Cell	Stem cell progenitor for osteoblasts.
137	Hyalocyte of vitreous of eye	Cells for canal for optic nerve in the eye.
138	Stellate Cell perilymphatic of ear	Neurons (electrically excitable cells in nervous system that process & transmit info) in the ear
139	Red skeletal Muscle Cell (slow)	Muscles attached to tendons, slow twitch is associated with endurance.
140	White skeletal muscle cell (fast)	Fast twitch is associated with speed; powerful short contractions.

141	Intermediate skeletal muscle	Muscle fibers that are neither fast twitch or slow twitch.
142	Nuclear Bag Cell	Lie in the center of muscle spindle. Cause excitation of nerve fibers.
143	Nuclear Chain Cell	Sensory organ contained within muscle for the detection of changes in muscle length.
144	Satellite cell (stem cell)	A stem cell (progenitor) that will become a muscle cell.
145	Myocardiocyte cell	Cells that make up the muscle tissue of the heart.
146	Nodal heart muscle cell	Tissue that functions as both muscle & nervous tissue; nodal tissue contracts like muscle tissue & generates nerve impulses like nervous tissue.
147	Purkinje fiber cell (in heart)	These fibers conduct electrical stimulus so heart contracts in a coordinated fashion.
148	Smooth muscle cell	In arteries, veins, bladder, uterus, male and female reproductive tracts & more.
149	Myoepithelial Cell of Iris	Cells that give the pigment to the eye; two cells thick.
150	Myoepithelial Cell of exocrine gland	Contracts and expels the secretions of exocrine glands and harbors progenitor cells.
151	Erythrocyte (red blood cell)	Body's principal means of delivering oxygen from the lungs to body tissues via blood.
152	Megakaryocyte	A bone marrow cell responsible for production of blood platelets for blood clotting.
153	Monocyte	Blood cells essential for immune system and fighting infection.
154	Connective tissue macrophage	Part of immune system, they "eat" old cells and cells that invaded the body.
155	Epidermal langerhans cell	Part of immune system in skin, they produce antigens to fight infections.
156	Osteoclast (in bones)	Removes bone tissue by removing its mineralized matrix, releasing minerals to blood.
157	Dendritic Cells	Part of immune system in skin, lungs, stomach, intestines etc.
158	Microglial Cell (Cent. Nerve. Sys)	Constantly moving & analyzing CNS for damaged neurons, plaques, and infections.
159	Neutrophil granulocyte	Most abundant type of white blood cells in humans: essential part of immune system.
160	Eosinophl granulocyte	White blood cells of immune system; responsible for combating infection & parasites.
161	Basophil granulocyte	Small % of white blood cells, stores histimine (histamine tells immune sys where to go.
162	Mast Cell	Play important protective role in wound healing and defense against pathogens.
163	Helper T Cell	Plays important role in establishing & maximizing capabilities of the immune system.
164	Suppressor T Cell	Act to suppress activation of immune system; thereby maintain immune sys. Homeostasis
165	Cytotoxic T Cell	Can induce death of infected somatic or tumor cells; kill cells infected with viruses.
166	Natural Killer T Cell	White blood cell that can kill tumor cells or microbial cells.
167	B Cell	From bone marrow, makes antibodies for immune system.
168	Natural Killer Cell	Essential for immunity; when absent, high rates of cancer and diabetes.
169	Reticulocyte	Immature red blood cells, they mature in blood stream.
170	Stem Cells	Have ability to differentiate into other cells in human.
171	Auditory inner hair cell of organ of Corti	Mechanical movement results in electrical impulse to brain.
172	Auditory outer hair cell of organ of Corti	Mechanically amplify low-level sound that enters the cochlea.
173	Basal Cell Stem Epithelia	Stem cells for cells specially designed for the sense of smell.
174	Cold sensitive primary sensory neurons	Cells designed to sense cold.
175	Heat sensitive primary sensory neurons	Cells designed to sense heat.
176	Merkel Cell of epidermis	In skin, cells that sense touch.
177	Olfactory Receptor Neuron	The primary transduction cell in the olfactory system; humans have 40 million.
178	Pain Sensitive Primary sensory neuron	Cells designed to sense pain.
179	Photoreceptor Blue Sensitive Cone	Cones are neurons (nerve cells) in the retina of the eyes. They convert light into electral impulses that the brain processes. Human have three types of cones that respond to blue, green and red light.
180	Photoreceptor Green Sensitive Cone	
181	Photoreceptor Red Sensitive Cone	
182	Proprioceptive primary sensory neurons	Neurons in the brain which sense of the orientation of one's limbs in space (i.e. feet when walking).
183	Touch sensitive primary sensory neurons	Neurons that specialize in processing touch.
184	Type I carotid body cell (artery)	Sense chemistry of blood and release numerous chemicals to modulate.
185	Type II carotid body cell (artery)	Provides support and nutrition, maintain homeostasis
186	Type I hair cell of vestibular ear	Tear drop shaped hair, contributor to balance system in humans.
187	Type II hair cell of vestibular ear	Cylinder shaped hair, contributor to balance system in humans.
188	Type I taste bud cell	Cells to detect taste, not just on tongue but also on soft palate, and epiglottis.
189	Cholinergic neural cell	Cells in the parasympathetic nervous system that regulate body functions.
190	Adrenergic neural cell	Cells with receptors that produce fight or flight response (i.e. faster heart rate).

191	Peptidergic neural cell	Nerve cells that secrete proteins.
192	Inner pillar cell organ of Corti	The organ of Corti has ordered rows that form a boundary around hair cells. Without the pillar cells, deafness results.
193	Outer pillar cell organ of Corti	
194	Inner phalangeal Cell of organ of Corti	Supporting cells of the organ of Corti attached to the basement membrane and forming rows that support the hair cell
195	Outer phalangeal Cell of organ of Corti	
196	Border Cell of organ of Corti	Cells allowing permeability in the ear.
197	Hensen Cell of organ of Corti	A supporting cell in the spiral organ of the ear.
198	Vestibular apparatus supporting cell	Contributor to balance & sense of spatial orientation, the system that provides the dominant input about movement and equilibrium.
199	Type I taste bud supporting cell	Cells that form an outer envelope for supporting the bud.
200	Olfactory epithelium supporting cell	Cells that support the olfactory receptor neurons. A type of supporting cell.
201	Schwann Cell	Cells that cover nerve fibers in peripheral nervous system & form the myelin sheath.
202	Satellite Cell (Nerve Cell)	Cells that encapsulate peripheral nerve cell bodies,
203	Enteric Glial Cell	Cells that directly control the gastrointestinal system.
204	Astrocyte	Provide nutrients to nervous tissue, and play role in the repair processes in the brain.
205	Neuron Cells	Core component of brain, vertebrate spinal cord, and the peripheral nerves.
206	Oligodendrocyte	Insulation of the axons exclusively in the central nervous system.
207	Spindle neuron	Cells that refract waves of neural signals from one region of the brain to other regions
208	Anterior Lens Epithelial Cell	Makes delicate adjustments in light rays to bring the light into focus upon the retina.
209	Crystalline containing Lens Fiber Cell	A water-soluble structural protein in the lens of the eye, accounts for transparency.
210	Melanocyte	Skin cell that produces melanin, a brown pigment that helps screen against UV light.
211	Retinal Pigmented Epithelial Cell	Pigmented cell layer outside the neurosensory retina; nourishes retinal visual cells.
212	Oogonium/Oocyte	An immature ovum.
213	Spermatid	A cell produced by spermatocyte; it develops into the spermatozoon
214	Spermatogonium Cell	Stem Cell for spermatocyte.
215	Spermatozoon	The mature sperm cell.
216	Ovarian Follicle Cell	Basic unit of female reproductive biology; eventually matures to an oocyte.
217	Sertoli Cell	AKA "mother cells" nurtures developing sperm cells through stages of spermatogenesis.
218	Thymus Epithelial Cell	Thymus stimulates production of infection-fighting cells. Important in maturation of T cells
219	Interstitial Kidney Cell	Fibrous tissue in kidney but not related to filtration.

QUESTIONS FOR EVOLUTIONISTS

1	Which cell evolved first? Last? Which evolved 100th?
2	If these cells rely on each other in order to function, explain how they each evolved?
3	These 219 developed from stem cells. How did the stems know how to make 219 different cells?
4	Describe how one, just one of these cells evolved. What did they evolve from? Explain how all 219 evolved.
5	Do you honestly not see design in any of these cells?

