

ETYMOLOGY OR WHAT DOES THIS MEAN?

Selected Word List for Histology

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The vocabulary used in histology is based to a great extent on the utilization of words, word roots and prepositions derived from the Latin and Greek languages. They are seen in the English language as prefixes, suffixes or word stems. This list is intended to introduce the medical student to scientific vocabulary and to demonstrate how the terminology for histology is developed. Knowledge of some of the more frequently used Latin and Greek forms helps put the study of histology on scientific and rational basis as well as making it more readily and pleurably mastered. This knowledge will also apply itself to the understanding of terminology used in other basic sciences and in the clinical field.

Rather than attempting to memorize the word list and definitions verbatim, repeated brief exposures associated with an active seeking of word definitions, either here or in the medical dictionary when a new word is encountered, should prove to be the most helpful for the majority of the students.

a, an	Greek prefix, indicating without or a negative quality , e.g. <u>acellular</u> - not containing cells; <u>amitosis</u> - cell duplication that does not go through the process of mitotic division.
ab	Latin prefix indicating away from , e.g., <u>abnormal</u> , <u>aberrant</u> .
acinus	Latin, a grape or berry, used in histology to designate the sac-like arrangement of cells forming glands, e.g., <u>pancreatic acini</u> , <u>parotid acini</u> .
ad	Latin preposition to or towards , sometimes seen as “af”, e.g., <u>afferent lymphatics</u> - those lymphatic tubules that flow to a lymph node; <u>adrenal gland</u> - a gland next to the kidney.
adenos	Greek, gland , e.g., <u>adenohypophysis</u> - the glandular portion of the hypophysis; <u>adenoid</u> - the pharyngeal tonsil.
affin	Latin stem for related or adjacent , hence <u>argentaffin cells</u> - those which have granulation stainable with silver; <u>chromaffin cells</u> - those stainable with chromium salts.
alveolus	Latin, a small hollow pit, used histologically to indicate a small sac-like dilation , e.g., <u>pulmonary alveoli</u> - the microscopic sacs of the lung; <u>dental alveolus</u> - the cavity in bone in which a tooth is held.
anti	Greek preposition meaning against , e.g., <u>antigen</u> , <u>antibody</u> .
append	Latin, to hang , e.g., <u>appendix</u> - gross anatomical structure attached to the cecum (literally hanging from the cecum); <u>appendix testis</u> - a remnant of an embryonic tube attached to the superficial pole of the testis.
appos	Latin stem signifying united, applied , e.g., <u>appositional growth</u> - layering of cells on other preformed similar or dissimilar surfaces as in bone growth.

basis	Greek, base or bottom , e.g., <i>basalis layer</i> of the endometrial lining of the uterus; <i>basilar</i> region of a cell - that nearer to its supporting membrane.
blast	Greek for germ or bud, used in histology as a word stem indicating an immature or precursor cell type, e.g., <i>osteoblast</i> - a bone-forming cell; <i>ameloblast</i> - an enamel-forming cell.
calyx	Greek for cup , e.g., <i>renal cortex</i> - cup-like structure into which collecting tubules deliver urine.
canaliculus	Latin, tiny duct or tube , e.g., <i>bile canaliculi</i> - tiny bile-transporting ducts of the liver.
cardia	Greek for heart , e.g., <i>myocardium</i> - the muscular portion of the heart; <i>pericardium</i> - the connective tissue sac enclosing the heart; <i>cardia</i> - the region of the stomach roughly near the heart.
chondro	Greek word stem for grain, gristle, cartilage , e.g., <i>chondroblast</i> - cartilage-forming cell; <i>perichondrium</i> - connective tissue surrounding cartilage; <i>mitochondria</i> - submicroscopic cytoplasmic organelles.
chrom	Greek, color , e.g., <i>chromatin</i> - the deeply staining material in a nucleus; <i>chromatolysis</i> - dissolution and fragmentation of chromatin in a cell, or Nissl substance in a nerve cell.
clast	Greek word stem meaning to break , e.g., <i>osteoclast</i> - a bone-destroying cell.
colliculus	Latin, a mound or hill , e.g., <i>seminal colliculus</i> - an elevated ridge within the prostatic region of the urethra.
corona	Latin, crown or wreath , e.g., <i>corona radiata</i> - an investment of granulosa cells around the ovum in a mature follicle; <i>coronary arteries</i> - the arteries of the heart (they have a wreath-like distribution).
corpus	Latin noun for body , e.g., <i>corona cavernosus penis</i> - a histologic structure in the penis in which blood may pool; <i>red corpuscle</i> - the red cell of the blood; <i>corpus luteum</i> of the ovary - yellow body.
cortex	Latin for bark or shell , e.g., <i>cortex</i> of the kidney or adrenal gland.
crin	Greek system for signifying to put out, expel , hence this word base is used to formulate words applying to glandular function, e.g., <i>apocrine gland</i> - one whose cells release a portion of the cell itself as well as their product into the secretion versus <i>merocrine glands</i> where the cell remains intact; <i>holocrine</i> .
crista	Latin, crest , e.g., the internal surface of mitochondria is composed of numerous shelf-like projections of the internal membrane called <i>cristae</i> .
cyte	Greek for cell , e.g., <i>cytology</i> - the study of the structure and function of cells; <i>osteocyte</i> - a bone cell.
decidua	Latin, indicating to shed , e.g., <i>deciduous teeth</i> - the first set of teeth that precede the permanent set; <i>decidua</i> - the lining of the gravid uterus which is shed at the time of delivery.
dendron	Greek, tree , e.g., <i>dendrite</i> - the branched cytoplasmic processes which conduct impulses toward the cell body.

dens	Latin, tooth , e.g., <u><i>dentin</i></u> - that portion of a tooth surrounding the pulp cavity; <u><i>dentinal tubules</i></u> - numerous small canals in the dentin.
desmos	Greek, chain, band , e.g., <u><i>desmosome</i></u> - submicroscopic structure with a function of holding adjoining cells together.
dia	Greek preposition through , e.g., <u><i>diapedesis</i></u> - the migration of white cells through a capillary wall; <u><i>diagnosis</i></u> - literally means “through knowledge”.
didymis	Greek for testis - used as a stem for words such as <u><i>epididymis</i></u> - a coiled tubule located on the superior pole of the testis.
duct	Latin stem meaning to lead , presently used in sense of a tube or passageway, e.g., <u><i>ductus deferens</i></u> ; <u><i>parotid duct</i></u> .
ectasis	Greek, extension, dilatation , e.g., <u><i>atelectasis</i></u> - collapse of the lung (literally, imperfect expansion).
ekto	Greek, outside , e.g., <u><i>ectoderm</i></u> - the external layer of the 3 germ cell layers; <u><i>exocrine gland</i></u> - one which releases its secretion outside of the tissue viaduct.
endo (end)	Greek preposition for in or within , e.g. <u><i>endothelium</i></u> - the epithelial lining of blood vessels; <u><i>endoplasmic reticulum</i></u> - submicroscopic network present in the cytoplasm of cells.
epi	Greek prefix meaning on or upon , e.g. <u><i>epidermis</i></u> - the external layer of the skin that overlies the dermis; <u><i>epinephrine</i></u> - a hormone produced by a tissue that anatomically rests on the kidney (nephros), i.e., the suprarenal gland.
erythro	Greek for red , e.g., <u><i>erythrocyte</i></u> - red blood corpuscle; <u><i>erythroblast</i></u> - an immature red blood cell.
ex (ef)	Latin preposition meaning out or away from , e.g., <u><i>efferent lymphatics</i></u> - those vessels carrying lymph out of a lymph node; <u><i>ductuli efferentes</i></u> of the testes - carry the sperm cells from the testes to the epididymis; <u><i>exogenous pigment</i></u> - that pigment which is produced elsewhere then incorporated by the cell.
folliculus	Latin, a small sac , e.g., <u><i>follicles</i></u> of the thyroid gland - the thyroid acini; <u><i>liquor folliculi</i></u> - fluid present in ovarian follicles.
ganglion	Greek for swelling , e.g., histologically used as a collection of nerve cell bodies outside of the central nervous system, e.g., <u><i>preaortic ganglia</i></u> .
genesis	Greek for origin , hence, <u><i>histogenesis</i></u> and <u><i>organogenesis</i></u> are the development of a tissue or an organ, respectively.
germ	Latin for bud or sprout , used in histology in sense of reproduction and development, e.g., <u><i>germ cells</i></u> - those cells concerned with reproduction of the organism; <u><i>germ layers</i></u> - 3 embryonic cellular layers which develop into the entire organism; <u><i>germinal center</i></u> of a lymphoid nodule.
glia	Greek, glue , e.g., <u><i>neuroglia</i></u> - the connective tissue cells of the central nervous system; <u><i>microglia</i></u> - the smallest neuroglial cells.
hem, hemo	Greek for blood , e.g., <u><i>hemoglobin</i></u> - the oxygen-carrying molecule in erythrocytes; <u><i>hematology</i></u> - the study of blood cells; <u><i>hemosiderin</i></u> - stainable tissue iron.

hepar	Greek, the liver , e.g., <i>hepatic parenchymal</i> cells - the glandular epithelium of the liver.
hetero	Greek, other, different , e.g., <i>heterogeneous</i> - composed of dissimilar elements.
hilus	Latin, that part of the gland or tissue where blood vessels, nerves, etc. enter.
histo	Greek stem for tissue , e.g., <i>histology</i> ; <i>histiocyte</i> - one of the cells present in connective tissue.
homo	Greek root for same, like, similar , e.g., <i>homeostasis</i> - a state of balance.
hyper	Greek prefix indicating more or a greater quantity , e.g., <i>hyperchromatic</i> - staining more intensely than usual.
hypo	A prefix derived from the Greek meaning under or a less quality , e.g., <i>hypodermis</i> - the layer of areolar connective tissue subadjacent to the dermis; <i>hypochromasia</i> - a decreased staining affinity.
inter	Latin preposition between , e.g., <i>interlobular</i> ducts of various glands; <i>interstitial</i> cells of the testes are located in between the seminiferous tubules.
intercal (intra)	Latin preposition into , e.g., <i>intralobular</i> ducts of the pancreas.
iso	Greek, equal, similar , e.g., <i>anisocytosis</i> - inequality in cell size; <i>isotope</i> .
karyo	Greek for nut or nucleus , e.g., <i>karyolysis</i> - dissolution of the nucleus of a cell; <i>karyorrhexis</i> - rupture or fragmentation of a nucleus.
lacuna	Latin, pit, depression , e.g., <i>lacunae</i> of bone - cavities in bone containing the osteocytes.
lamella	Latin diminutive form of lamina , hence a very thin, little plate , e.g., <i>lamellae</i> of the endoplasmic reticulum - submicroscopic plates present in cytoplasm.
lamina	Latin for thin plate , e.g., <i>lamina propria</i> - the thin layer of connective tissue supporting the glands and epithelial lining of a mucosal layer.
leuko	Greek for white , e.g., <i>leukocyte</i> - a white blood cell; <i>leukemia</i> - a disease of the white blood cells.
luteus	Latin adjective for yellow , e.g., <i>corpus luteum</i> - the “yellow body” that is developed from an ovarian follicle after it has released its ovum; <i>lutein cells</i> - the cells of the corpus luteum.
lymph	Latin stem for water , e.g., <i>lymph</i> - interstitial fluid that has entered the lymphatic vascular channels; <i>lymphocytes</i> - cells present in lymph and lymph nodes.
macro	Greek, large , e.g., <i>macrophage</i> - a large phagocytic cell; <i>macroscopic</i> .
macula	Latin, spot or stain , e.g., <i>macula densa</i> - a collection of specialized cells in the distal convoluted tubule at the point where it lies adjacent to the afferent arteriole.
matrix	Latin for site of generation and development , used in histology as the ground work or frame of a tissue into which cells are placed, e.g., the <i>matrix</i> of dense connective tissue is

mediastinum	essentially collagen fibers. Latin meaning “ in the middle ”, e.g., <i>mediastinum testes</i> - an area of fibrous tissue within the testes; the <i>mediastinum</i> of the chest - the central area of the thoracic cavity “between the two lungs”.
medulla	Latin, the inner layer or region , e.g., <i>medulla</i> of a lymph node; <i>medullary rays</i> - groups of tubules extending from the medulla into the cortex in the kidney.
mega	Greek for great , e.g., <i>megakaryocyte</i> - a giant cell with a large multilobed nucleus that is found in the bone marrow and which produces platelets; <i>megaloblast</i> - an abnormal erythrocyte precursor that is (among other things) larger than normal.
meso	Greek stem meaning middle or intermediate , e.g., <i>mesoderm</i> - the middle layer of the 3 germinal layers; <i>mesothelium</i> - epithelium lining the peritoneal cavity.
mestos	Greek for stuffed , e.g., <i>mast cell</i> - a connective tissue cell containing large number of metachromatic cytoplasmic granules.
meta	Greek prefix used to indicate a change or transformation , e.g., <i>metachromasia</i> - the quality of a tissue to stain a color other than that of the stain used; <i>metamyelocyte</i> - a developing white cell that has progressed beyond the myelocyte stage.
metra (o)	Greek stem referring to the uterus , e.g., <i>myometrium</i> - the muscular layer of the uterus; <i>endometrium</i> - the mucosa of the uterus.
mikros	Greek, small , e.g., <i>microscopic</i> , <i>microscopy</i> , <i>micron</i> .
mitos	Greek, thread , e.g., <i>mitosis</i> - the process of cell division (descriptively, that time when the chromosomes become definitive and thread-like); <i>mitochondria</i> - the submicroscopic cytoplasmic organelles having a thread-like appearance.
morphe	Greek, form or shape , e.g., <i>morphology</i> - study of form and structure; <i>amorphous</i> - without a definite structure.
mu	Greek letter for “ m ” (written as μ); it is used as a measurement, <i>micron</i> - one thousandth of a millimeter. The erythrocyte is 7μ in diameter.
mucus	Latin for slime , used in histology in forms as <i>mucosa</i> - the glandular secretory layer of the intestine; <i>mucous</i> - (adj.) - containing or liberating a thick secretion; <i>mucin</i> - the chief constituent of mucus.
myel	Greek stem for bone marrow , also often taken to include the spinal cord, e.g., <i>myeloid cells</i> - white blood cells that develop in the marrow; <i>myeloblast</i> - an immature white blood cell; the <i>myelin sheath</i> of a nerve fiber.
myo (mys)	Greek root for muscle , e.g., <i>myocardium</i> - the muscular portion of the heart; <i>myenteric plexus</i> - a collection of nerve cell bodies between the muscular layers of the gut; <i>epimysium</i> - the layer of connective tissue surrounding a muscle.
nephos	Greek for kidney , e.g., <i>pronephros</i> - the early embryonic kidney; <i>nephron</i> - the unit structure of the kidney.
neuron	Greek for nerve . Used as a stem for many words relating nerve structure, e.g., <i>neuron</i> - a nerve cell; <i>epineurium</i> - the outer connective tissue layer surrounding a nerve; <i>neuroanatomy</i> .
odontos	Greek, tooth , e.g., <i>odontoblast</i> - cell associated with formation of dentin; <i>periodontal</i>

oo	<i>membrane</i> - one of the layers surrounding the root of a tooth. Word root from Greek “oon” meaning egg ; hence this stem refers to the ovum, e.g., <i>oogonium</i> - the first stage in development of an ovum; <i>cumulus oophorus</i> - a collection of cells in which the ovum is embedded in a mature follicle.
osteon	Greek for bone , e.g., <i>osteocyte</i> - bone cell; <i>osteoid</i> - young bone not yet calcified.
ovum	Latin for egg , e.g., <i>ovulation</i> - the release of an egg from the <i>ovary</i> (the female gonad).
papilla	Latin, nipple or little bump , e.g., <i>lingual papillae</i> - tiny projections on the surface of the tongue, some of which contain taste buds; <i>papillary layer</i> of dermis - stratum of dermis containing connective tissue projections which penetrate into the epidermis.
para	Greek preposition, used to indicate position next to or a similarity, e.g., parachromatin - the stainable material in a nucleus other than the dark-staining chromatin; the parathyroid gland.
parenchyme	From Greek para and en (=in) and chei (to pour). The essential and proper tissue of an organ, e.g., liver parenchyme.
pars	Latin, part, e.g., pars distalis of the hypophysis; pars nervosa of the hypophysis.
penia	Greek for poverty, used as a suffix, e.g., cytopenia - a lack of cells; leukopenia - a decrease in the number of circulating white blood cells; thrombocytopenia - insufficient numbers of platelets or thrombocytes.
peri	Greek for around, encircling, e.g., periosteum - dense connective tissue layer that surrounds bone; perimysium - connective tissue investing small bundles of muscle fibers; periodontal membrane - dense connective tissue which produces firm connection between a tooth and bone; periodontia.
pes (ped)	Latin word root for foot, e.g., podocyte - renal cell with many cytoplasmic foot processes.
phago	Greek, to eat, e.g. phagocyte - a cell that engulfs foreign material; macrophage - a large phagocytic cell; esophagus - a portion of the intestinal tract leading to the stomach.
philos	Greek, loving, fond of, having affinity for, e.g., acidophilic - staining with acid dyes; argyrophilic fibers - those stainable with silver stains.
phobe	Greek, fear or resisting, e.g., chromophobe cells of the hypophysis - those that do not stain with usual stains.
phyl	Greek, tribe, race, e.g., phylogensis of adrenal gland - comparative study of the development of the adrenal gland in various animal forms; monophyletic.
pino	Greek, to drink, e.g., pinocytosis - the process by which cells may engulf substances in solution by an involution of the cytoplasmic border and thus trap the material within a cytoplasmic structure called a pinocytic vesicle.
plasia	Greek stem indicating a moulding, e.g., hyperplasia - increased growth or development; anaplastic - lacking normal form.
plasma	Greek for anything formed or molded, used histologically for apparently structureless more or less amorphous structures, e.g., nucleoplasm - “nuclear sap”; cytoplasm; endoplasmic reticulum - a submicroscopic cytoplasmic network.
poikilo	Greek, varied, e.g., poikilocytosis - a variation in the shape of erythrocytes.

poly	Used as a prefix indicating many, e.g., polychromatic - staining more than one color; polyploid nuclei - those with more than the normal number of chromosomes.
portal	Porta means “the gate” in Latin - hence the portia hepatis refers to the areas where blood vessels and bile duct enter and leave the liver; a portal circulation is one, contrary to that usually seen, in which the same type of vessel (e.g., vein) drains away from and leads into a capillary or sinusoidal network (as in the hepatic portal system).
pre	Latin prefix indicating before or anterior, e.g., premolar - a tooth located anterior to a molar; the preclinical years of medical school.
pro	Greek preposition meaning before, e.g., prophase - the first stage of mitosis; promyelocyte - the immature white blood cell that develops into the myelocyte stage.
propria	Latin, one’s own special, e.g., lamina propria mucosae of digestive tract or urethra - the thin layer of connective tissue upon which the mucosa rests.
rectus	Latin, straight, e.g., tubuli recti - the straight tubules of the testes interposed between the coiled seminiferous and tubuli efferentes; erectile tissue of the penis - that spongy tissue which when engorged with blood results in swelling and erection.
rene	Latin for kidney, used as word root for referring to this organ, e.g., renal tubules; reniform - kidney-shaped; adrenal - next to the kidney.
rete	Latin noun for net, e.g., rete testis - a network of canals within the testes; reticulocyte - an erythrocyte that still has some retained cytoplasmic RNA which, when histologically demonstrated, presents an appearance resembling a network.
reticulum	Latin, the diminutive form of rete (a network), hence, a tiny network, e.g., reticular fiber - a type of fiber found in connective tissue especially in hematopoietic tissues where it forms much of the structural skeleton of the tissue; reticular cell - a primitive cell found in association with reticular fibers and whose cytoplasmic extensions join with one another to form a loose network.
sarcos	Greek for flesh, e.g., sarcoplasm - the material between the myofibrils in the cytoplasm of a muscle cell; sarcolemma - the delicate membrane investing single muscle fibers.
septum	Latin, partition, e.g., alveolar septa - the walls of the pulmonary alveoli; septal cells - macrophages present in alveolar septa.
serous	Latin for “whey”, watery, e.g., serous gland - one which elaborates as a watery secretion; blood serum ; a serous membrane.
sinus	Latin, a bay of the sea , e.g., <u>hepatic sinusoids</u> -small irregular blood vascular channels interposed between liver cells.
soma	Greek for body , e.g., <u>somatic cells</u> - cells other than the germinal cells; <u>microsomes</u> - submicroscopic cytoplasmic particles; <u>ribosomes</u> - microsomes containing ribose nucleoprotein.
squam	Latin, scaly, flat , e.g., <u>squamous epithelium</u> - thin, plate-like epithelium.
stereo	Latin, solid, frequently used to denote “ having three dimensions ”, e.g., <u>stereocilia</u> - non-motile cilia-like projections of the cytoplasm.

stratum	Latin noun for layer , e.g., <i>stratum corneum</i> of the skin - the cornified layer; <i>stratified</i> (adj.) - layered.
sub	Latin, under or below , e.g., <i>submucosa</i> - the layer of the intestinal tract wall deep to the mucosa; <i>sublingual gland</i> .
supra	Latin preposition above or superior , e.g., <i>suprarenal gland</i> - the adrenal gland - anatomically located on the superior pole of the kidney.
syn (m)	Greek stem for together , e.g., <i>syncytium</i> - an aggregation of cells without definite cell boundaries; <i>synapsis</i> - the paring and union of homologous chromosomes at the start of meiosis.
tela	Latin, web or woven structure - used histologically as a layer, e.g., <i>tela submucosa</i> - the layer deep to the mucosa.
telo	Greek stem indicating far, distant, the end , e.g., <i>telophase</i> - the last stage of mitosis.
theca	Greek noun - sheath or covering , e.g., <i>theca externa</i> and <i>theca interna</i> - layers of cells that envelop the developing ovum.
thrombos	Greek, clot , e.g., <i>thrombocyte</i> - circulating cytoplasmic fragments of megakaryocytes having functions associated with clotting blood.
trans	Latin preposition across , e.g., <i>transition epithelium</i> - epithelium intermediate in appearance between squamous and columnar epithelium; <i>translucent</i> .