1.	**Aldehyde Fuchsin**	- can be used to stain pancreatic islet beta cell granules
2.	**Alician Blue**	- a **Mucin stain** (a category of histology stains, listed below) - can stain mucins and mucosubstances blue (due to the copper in the stain)
3.	**Alizarin Red S**	- can be used to identify calcium in tissue sections - used on the Dupont ACA analyzer to measure serum calcium photometrically
4.	**Alkaline Phosphatase**	- can be used to stain endothelial cells
5.	**Azan Stain**	- can be used to differentiate osteoid from mineralised bone
6.	**Bielschowsky Stain**	- can be used to show reticular fibres - used for showing neurofibrillary tangles and senile plaques - uses the chemical element silver (Ag)
7.	**Cajal Stain**	- can be used on nervous tissue.
8.	**Congo Red**	- used to stain amyloid fibres (to appear orange/red).
9.	**Cresyl Violet**	- will stain both neurons and glia - bonds with acidic parts of cells such as ribosomes, nuclei and nucleoli
10.	**Eosin**	- commonly used for general histology staining when paired with haematoxylin - see **Hematoxylin and Eosin (H&E)**
11.	**Fontana-Masson**	- uses the chemical element silver (Ag) - stains argentaffin granules and melanin black - while also staining nuclei pink/red and cytoplasm light pink - a specific example of a **Melanin Stain** (general category of histology stains)
12.	**Giemsa Stain**	- a Romanowski (also written "Romanowsky") type stain - used for peripheral blood smears, i.e. a thin layer of blood smeared on a microscope slide and used for bone marrow. - used to study parasites and malaria
13.	**Golgi Stain**	- can be used to stain neurons
14.	**Gomori Trichrome**	- trichrome histology stains are formed from a mixture of three dyes - Gomori's trichrome stains connective tissue and collagen (green or blue), muscle, keratin and cytoplasm (red) and nuclei (grey/blue/black)
15.	**Heidenhain's AZAN trichrome stain**	- trichrome histology stains are formed from a mixture of three dyes - can be used to distinguish cells from extracellular components - stains connective tissues, e.g. muscle fibres, cartilage and bone matrices. - a similar stain to Mallory Trichome (listed below). *These histology stains differ because Heidenhain introduced azocarmine G in place of the acid fuchsine of Mallory's stain. He also added controlled destaining resulting in different colours of cell nuclei (dark red), collagen (blue) and a various of colours in cytoplasm.*
16.	**Hematoxylin**	- commonly used for general histology staining when paired with eosin - see **Hematoxylin and Eosin (H&E)**
17.	**Hematoxylin and Eosin (H&E)**	- standard histology stain and the most frequently used combination of stains used in the histology lab for **general purpose staining** - often used for routine tissue preparation - **Hematoxylin** binds to acidic structures, staining them blue-purple. Hence it binds and stains nucleic acids (DNA and RNA), so stains the nuclei of cells blue.

	- **Eosin** binds to and stains basic structures pink, e.g. cytoplasm, muscle, connective tissue, colloid and red blood cells are stained pink-red.
18. **Iron Hematoxylin**	- stains nuclei bluish/black.
19. **Luna Stain**	- can be used to demonstrate elastin and mast cells
20. **Luxol Fast Blue**	- the alcohol soluble equivalent of **Alician Blue** (see above) - used to observe myelin (myelin stains blue to blue/green, neurons to violet, red blood cells to blue)
21. **Mallory Trichrome**	- trichrome histology stains are formed from a mixture of three dyes - used on connective tissue to indicate collagen and reticular fibers. - uses acid fuchsine followed by a solution containing PTA, orange G and aniline blue.
22. **Masson Trichrome**	- trichrome histology stains are formed from a mixture of three dyes - can be used to distinguish between cellular items & extracellular items - can be used on connective tissue.
23. **Melanin Stains**	- a category of histology stains used to stain melanin (which is located in the skin, eyes, and melanomas) - can be used to study melanin pigment in cells of malignant melanoma - **Fontana-Masson** (listed above) is a specific example of a melanin stain.
24. **Movat's Pentachrome Stain**	- can be used to study connective tissue.
25. **Mucicarmine**	- a very specific **Mucin Stain** - can be used to observe epithelial mucins
26. **Mucin Stains**	- a category of histology stains generally used to indicate one or more types of mucopolysaccharide substances in tissues.
26. **Myloperoxidase (MPO)**	- can help identify cytoplasmic granules characteristic of myeloid cells (i.e. leukocytes that are not lymphocytes). - can be used to screen peripheral blood samples for indications of myelogenous leukemia, a cancer of the white bllod cells.
27. **Nissl Stains**	- are basic dyes - can be used to stain RNA and DNA - can be used to see Nissl bodies (which are also known as "Nissl granules" and as "tigroid bodies") in neurons.
28. **Nuclear Fast Red**	- can be used to stain cell nuclei red (the cytoplasm will be unstained or yellow)
29. **Oil Red O**	- a fat satain - can identify neutral lipids and fatty acids in smears and tissues - fresh smears or cryostat sections of tissue are necessary because fixatives containing alcohols, or routine tissue processing with clearing, will remove lipids - a simple and rapid stain. - can be used to identify fat emboli in lung tissue or clot sections of peripheral blood - can be used to stain lipids red (nuclei stain blue/black).
30. **Orcien Stain**	- can be used to stain for elastin fibres
31. **Osmium Tetroxide**	- can be used to stain lipids
32. **Papanicolaou Stain**	- a staining technique that involves five dyes in three solutions.

	- mainly used on exfoliated cytological specimens - examples of use incl. gynecological smears (Pap smears), sputum, urine, cerebrospinal fluid, abdominal fluid, pleural fluid, synovial fluid, semminal fluid
33. **Periodic Acid-Schiff (PAS)**	- a **Mucin stain** (listed above) - used for staining glycogen and other carbohydrates - used to show glomeruli, basement membranes, and glycogen in the liver
34. **Perl's Iron Stain**	- can be used to reveal the presence of iron in biological tissues.
35. **Phosphotungstic Acid-Hematoxylin (PTAH)**	- can be used to stain striated muscle fibres and mitochondria, also to reveal some specific disease processes in the central nervous system (CNS) - sometimes used to check for tumours in skeletal muscle
36. **PicroSirius Red (polarized)**	- can be used to identify collagen fibres when used with polarised light
37. **Prussian Blue**	- can be used to stain iron (both ferric iron and ferritin).
38. **Reticular Fiber Stain**	- sometimes called "Weigert's Stain" (also listed below) - uses silver salt - stains reticular fibres black, usually stains collagenous fibres purple
39. **Romanowsky Stains**	- can be used for blood and bone marrow tissue samples
40. **Safranin O**	- can be used to stain mucin, cartilage and mast cells
41. **Schmorl's Stain**	- can be used to show canaliculi and lamellae in bone sections - not a classical "stain" but made-up of two colouring agents that work together
42. **Silver Stain(s)**	- used to show melanin and reticular fibres (argyrphilic tissue has an affinity for silver salts; argyrophilic cells bind silver salts, hence silver salts will be seen in argyrphilic tissues)
43. **Sudan Stains**	- a group of stains, incl. **Sudan Black**, **Sudan IV**, and **oil red O** (also listed here, above) - generally used for staining lipids and phospholipids
44. **Tartrazine**	- can be used to stain cytoplasm, cartilage, and red blood cells
45. **Toluidine Blue**	- can be used to stain mast cells
46. **Van Gieson**	- sometimes used in conjunction with iron hematoxylin. - can be used to differentiate between collagen and smooth muscle.
47. **Verhoeff Stain**	- sometimes called "Verhoeff's Hematoxylin" - used to study connective tissue, esp. elastic fibres - can be used to look at lung tissue and arteries
48. **Von Kossa Stain**	- used to indicate calcium and calcium deposits
49. **Weigert's Elastic Stain**	- can be used to stain elastic fibres
50. **Wright's Stain**	- based on a blend of dyes, such as methylene blue derivatives and acid dyes e.g. eosin - used for blood smears and bone marrow smears

Notes:
* These histology stains, and in some cases types of stains, are listed in alphabetical order. The numbers shown on the left are only for ease of finding and referring to the items listed e.g. when sharing or discussing the information on this page. The numbers themselves do not have any significance.