

APPENDIX 1: COMMON STAINS AND THEIR REACTIONS

stain	nucleus	cytoplasm	collagen	RBCs	other
Haematoxylin	blue				mucins - light blue
Eosin		pink	pale pink	bright red	colloid - pink muscle - red
Iron Haematoxylin	blue/black				
Van Gieson*§		brown/yellow	red	yellow	muscle: yellow/brown cartilage - pink
Verhoeff's Elastin	black	—	—	—	elastic fibres - black
Tartrazine		yellow	yellow	yellow	
Silver Impregnation			grey/brown		reticular fibres - black
Methyl Green	dark green	light green	light green	green	
Nuclear Fast Red	red	pink	pink	pink	
Gomori's Trichrome	purple/red	purple	green	red	keratin - red muscle- purple/red
Heidenhain's Azan	red	purple/red	deep blue	red	muscle - red
Osmium tetroxide			brown	brown	myelin, lipids - black
Alcian Blue					mucins - blue^
Periodic acid & Schiff's reagent (PAS)			pink		mucins, glycogen, glycocalyx - magenta
PTAH#	blue		red	blue	muscle bands - blue
Masson's Trichrome*	blue/black	red	green/blue	red	cartilage, mucins - blue or green; muscle - red
Luxol Fast Blue				variable	myelin - blue~
Aldehyde Fuchsin					elastic fibres, mast cells - deep purple
Light Green			light green		
Gallocyanin	dark blue				nucleic acids, Nissl granules - dark blue
Romanowsky (e.g. Leishman's stain)	blue	pink			acidophils - red basophils - blue azurophilic - purple
Aldehyde Pararosanilin					elastic fibres - purple

Notes: Common stain combinations are listed in the **Slide Catalogue** against the specimen.

* indicates stain is a combination of two or more dyes.

§ Van Gieson is often used with Iron Haematoxylin, giving brown nuclei.

^ mucins are green when Alcian Blue is combined with Van Gieson.

PTAH stands for Phosphotungstic acid and Haematoxylin.

~ myelin may be green when Luxol Fast Blue is combined with Tartrazine (yellow).

Picro-Mallory is similar to Masson's Trichrome, giving orange/yellow RBCs.

(B. Freeman, 20