**HISTOLOGY STAINS**

**DESCRIPTION OF STAINS APPEARING IN THE VIRTUAL SLIDEBOX SUPPLEMENTAL SLIDES**

### ANILINE BLUE

- Affinity for collagen, cartilage matrix and mucus
- Frequently used to differentiate these components in sections that have already been stained with other dyes

### BEST’S CARMINE

**Glycogen stain**

- Glycogen: bright red
- Connective tissue: paler red
- Nuclei: blue

### BIELSCHOWSKY

**Nervous tissue stain**

A silver stain used to demonstrate neurofibrillary tangles, nerve fibers and senile plaques in Alzheimer’s disease.

- Axons, plaque neurites, tangles: black
- Plaque, vascular amyloid: brown to dark brown
- Background: yellow to brown

### IHAB

**Iron Hematoxylin & Aniline Blue**

The combination of aniline blue (acid stain) with iron hematoxylin (basic stain) is very effective for demonstrating the collagenous connective tissues.

- Nuclei and other basophilic structures are stained black to brown
- Collagen fibers are stained bright blue
### MASSON’S TRICROMES

**Collagen stain**

Helps in the detection of collagen fibers in tissues such as skin, heart, etc. Routinely used for liver and kidney biopsies.

- muscle, keratin: red
- collagen, bone, mucins: blue or green
- cytoplasm: pink to light red
- nuclei: dark brown to black

### MALLORY TRICROMES

**Connective Tissue stain**

- muscle, nuclei, fibrin: red
- collagen, reticular fibers: blue
- erythrocytes: orange
- elastic fibers: yellow or pink

### MALLORY-AZAN (Heidenhain’s Azan)

**Connective Tissue stain**

A variant of Mallory that uses azocarmine instead of acid fuchsin and is widely used as a substitute.

- muscle, acidophils granules: orange to red
- collagen, basophils granules: blue
- nuclei, cytoplasm: red
- elastic fibers: unstained or yellow or pink

### OIL RED O

**Fat stain**

Used for staining neutral triglycerides and lipids in frozen sections.

- lipid: red
- nuclei: blue/black
## VERHOEFF VAN GIESEN

### Elastic tissue stain

Differentiates between muscle and connective tissue. Helps to identify atrophy of elastic tissue in cases of emphysema, and the thinning and loss of elastic fibers in arteriosclerosis and other vascular diseases.

- collagen: red
- elastin, nuclei: dark brown to black
- background: yellow

## RETICULIN STAIN

A silver impregnation technique that demonstrates reticular fibers in connective tissue and organs (abundant in liver, spleen, and kidney). Often used with a counterstain.

- reticular fibers: black
- other tissues: color of counterstain

## WRIGHT’S

### Stain for blood

- erythrocytes: pink-red
- leukocytes: cytoplasm → unstained-pale blue
  - nuclei → dark blue-purple
  - eosinophilic granules → bright red, large
  - neutrophilic granules → pale purple pink, small
  - basophilic granules → deep blue-purple
- platelets: lavender