MAST CELLS - TOLUIDINE BLUE

PURPOSE: These cells are found widely distributed in the connective tissue. Their cytoplasm contains granules composed of heparin and histamine. These granules are metachromatic.

PRINCIPLE: Mast cells should stain red-purple (metachromatic staining) and the background stain blue (orthochromatic staining). Metachromasia, tissue elements staining a different color from the dye solution, is due to the pH, dye concentration and temperature of the basic dye. Blue or violet dyes will show a red color shift, and red dyes will show a yellow color shift with metachromatic tissue elements.

CONTROL: Skin

FIXATIVE: 10% formalin

TECHNIQUE: Cut paraffin sections 4µ.

EQUIPMENT: Coplin jars, rinse all glassware in DI water.

REAGENTS:

Toluidine Blue Stock Solution:
Toluidine Blue O 1.0 gm
70% alcohol 100.0 ml

1% Sodium Chloride:
Sodium chloride 0.5 gm
Distilled water 50.0 ml

Mix, solution is stable for 6 months.

CAUTION: Avoid contact and inhalation.

Working Solution:
Toluidine blue, Stock 5.0 ml
1% Sodium chloride 45.0 ml

Make fresh, discard after use.

CAUTION: Avoid contact and inhalation.
SPECIAL CELLS AND TISSUES

TOLUIDINE BLUE

SAFETY: Wear gloves, goggles and lab coat. Avoid contact and inhalation.

Toluidine Blue O; Gastrointestinal and blood disorders reported in humans.

PROCEDURE:
1. Deparaffinize and hydrate to distilled water.
2. Working Toluidene blue, 1-2 minutes.
3. Rinse in distilled water, 3 changes.
4. Dehydrate quickly through 95% and absolute alcohols.
5. Clear in xylene, coverslip.

RESULTS:
Mast cells violet
Background shades of blue

REFERENCES:
Crookham, J, Dapson, R, Hazardous Chemicals in the Histopathology Laboratory, 2nd ED, 1991, Anatech

Prepared: __________________ By: ____________
Approved: __________________ By: __________________

Downloaded from WebPath: Internet Pathology Laboratory
http://www-medlib.med.utah.edu/WebPath/webpath.html
PROCEDURE CARD

**MAST CELLS - TOLUIDINE BLUE**

**CONTROL:** Skin

**TECHNIQUE:** Cut paraffin sections 4µ.

**PROCEDURE:**
1. Deparaffinize and hydrate to distilled water.
2. Working Toluidene blue, 1-2 minutes.
3. Rinse in distilled water, 3 changes.
4. Deydrate quickly through the 95% and absolute alcohols.
5. Clear in xylene and coverslip.

**RESULTS:**
Mast cells violet
Background shades of blue

**Toluidine Blue Stock Solution:**
- Toluidine Blue O 1.0 gm
- 70% alcohol 100.0 ml

Mix, solution is stable for 6 months.

**1% Sodium Chloride:**
- Sodium chloride 0.5 gm
- Distilled water 50.0 ml

Make fresh.

**Working Solution:**
- Toluidine blue, Stock 5.0 ml
- 1% Sodium chloride 45.0 ml

Make fresh, discard after use.

**CAUTION: Avoid contact and inhalation.**
**Toluidine Blue**  
**Stock Solution:**
Toluidine Blue O       1.0 gm  
70% alcohol        100.0 ml  
Mix, solution is stable for 6 months.  
**CAUTION:** Flammable, avoid contact and inhalation.

DATE:__________________________  
TECH:__________________________  
EXPIRATION:_____________________