
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 4 μ .

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

Make fresh.

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.

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:

- Sheehan D, Hrapchak B, Theory and practice of Histotechnology, 2nd Ed, 1980, pp282, Battelle Press, Ohio
Luna L, Manual Of Histologic Staining Methods from the AFIP, 3rd Ed, 1968, pp 162-163, McGraw-Hill, NY
Crookham, J, Dapson, R, Hazardous Chemicals in the Histopathology Laboratory, 2nd ED, 1991, Anatech

Prepared: _____ By: _____

Approved: _____ By: _____

PROCEDURE CARD
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DATE: _____

TECH: _____

EXPIRATION: _____