

**UEMCOWEL** 

Part 4100

Revised March 2025

# Calcium Control Slides - Technical Memo

CONTROL SLIDES: Part 4100A Part 4100B 10 Slide/Set 98 Slide/Set

## **PRODUCT SPECIFICATIONS:**

Tissue: Positive staining placenta.

Fixation: Formalin 10%, Phosphate Buffered (Part 1090).

Section/Glass: Paraffin sections cut at 4 microns on Superfrost™ Plus slides.

Quality Control Stain: Von Kossa Calcium quality control stained slide(s) included.

Reactivity: Guaranteed product specific reactivity for one year from date of receipt. Revalidate after one year to verify continued reactivity.

**Storage:** 15-30°C in a light deprived and humidity controlled environment. **Intended Use:** To verify histological techniques and reagent reactivity.

Before using unstained control slides, review the enclosed stained slide(s) to ensure that this tissue source is acceptable for testing needs.

#### **CONTROL SLIDE VALIDATION:**

With Von Kossa Calcium Stain: Silver Nitrate 5%, Aqueous Sodium Thiosulfate 5%, Aqueous

Nuclear Fast Red Stain, Kernechtrot

Individual Stain Solution Part 13805

Part 1389 Part 1255

## **APPLICATION:**

Newcomer Supply Calcium Control Slides are for the positive histochemical staining of calcium or calcium salts in tissue sections.

#### PRESTAINING PREPARATION:

- 1. Heat dry sections in oven according to your laboratory protocol.
- 2. All glassware/plasticware must be acid cleaned prior to use.
  - a. See Procedure Notes #1 and #2

# **NEWCOMER SUPPLY VALIDATION PROCEDURE:**

- Deparaffinize sections thoroughly in three changes of xylene, 3 minutes each. Hydrate through two changes each of 100% and 95% ethyl alcohols, 10 dips each. Wash well with distilled water.
  - a. See Procedure Notes #3 and #4.
- Place slides in Silver Nitrate 5%, Aqueous according to the following timings and conditions.
  - a. Direct sunlight or ultraviolet light for 10-30 minutes.
  - b. In front of a 60-100 watt light bulb for 1 hour or longer.
  - c. See Procedure Note #5.
- Check slides periodically and remove from light source when control slide shows black-brown deposits macroscopically.
- 6. Rinse well in several changes of distilled water.
- 7. Place slides in Sodium Thiosulfate 5%, Aqueous for 2 minutes.
- 8. Rinse well in several changes of distilled water.
- Counterstain in Nuclear Fast Red Stain, Kernechtrot for 5 minutes.
  - a. Shake solution well before use; do not filter.
- Rinse well in distilled water.
  - a. See Procedure Note #6.
- Dehydrate in two changes each of 95% and 100% ethyl alcohol; 10 dips each. Clear in three changes of xylene, 10 dips each; coverslip with compatible mounting medium.

## **RESULTS:**

Calcium salts Black to brown/black

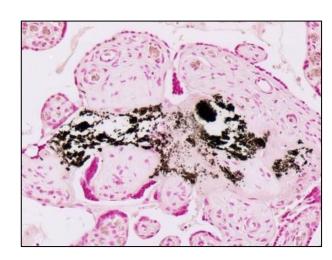
Nuclei Red Cytoplasm Light pink

### **PROCEDURE NOTES:**

- Acid clean all glassware/plasticware (Part 12086) and rinse thoroughly in several changes of distilled water.
- No metals of any kind should come in contact with silver solutions to prevent precipitation of silver salts. Use plastic forceps (5500) or paraffin coated metal forceps.
- 3. Drain slides after each step to prevent solution carry over.
- 4. Do not allow sections to dry out at any point during procedure.
- Direct sunlight is the preferred method. If procedure is in minimal sunlight increased incubation time will be necessary.
- Wash well after Nuclear Fast Red Stain, Kernechtrot to avoid cloudiness in dehydration steps.
- If using a xylene substitute, follow manufacturer's recommendation for deparaffinization and clearing steps.

# **REFERENCES:**

- Carson, Freida L. and Christa Hladik. Histotechnology: A Self-Instructional Text. 3rd ed. Chicago, Ill.: American Society of Clinical Pathologists, 2009. 269-270.
- Sheehan, Dezna C. and Barbara B. Hrapchak. Theory and Practice of Histotechnology. 2nd ed. St. Louis: Mosby, 1980. 226-227.
- 3. Modifications developed by Newcomer Supply Laboratory.



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