

Nuclear Fast Red Stain, Kernechtrot - Technical Memo

SOLUTION:

Nuclear Fast Red Stain, Kernechtrot

250 ml
Part 1255A

500 ml
Part 1255C

1 Liter
Part 1255B

Additionally Needed:

Xylene, ACS	Part 1445
Alcohol, Ethyl Denatured, 100%	Part 10841
Alcohol, Ethyl Denatured, 95%	Part 10842

For storage requirements and expiration date refer to individual bottle labels.

APPLICATION:

Newcomer Supply Nuclear Fast Red Stain, Kernechtrot is a versatile stain and counterstain that combines nuclear fast red dye with an aluminum sulfate mordant to selectively stain nuclear chromatin red and provide nonspecific background tissue staining in shades of pink.

Nuclear Fast Red (NFR) is also known by its Germanic origin name of Kernechtrot. Kernechtrot and Nuclear Fast Red are interchangeable terms for the dye and solution.

Nuclear Fast Red Stain, Kernechtrot is used in a wide variety of staining procedures that include:

- Alcian Blue 1%, pH 2.5 Stain
- Alcian Blue 1%, pH 1.0 Stain
- Fontana Masson Stain
- Colloidal Iron, Müller-Mowry Stain
- Iron, Gomori Prussian Blue Stain
- Reticulum, Gordon & Sweets Stain
- Schmorl Melanin Stain
- Sudan Black B Stain
- Victoria Blue Stain
- Von Kossa Calcium Stain

METHOD:

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

Technique: Paraffin sections cut at 4 microns

Solutions: All solutions are manufactured by Newcomer Supply, Inc.

STAINING PROCEDURE:

1. 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 #1 and #2.
2. Proceed with staining procedure of choice.
3. Counterstain in Nuclear Fast Red Stain, Kernechtrot for 5 minutes.
 - a. Shake solution well before use; do not filter.
 - b. See Procedure Note #3.
4. Rinse well in distilled water.
 - a. See Procedure Note #4.
5. Dehydrate in two changes each of 95% and 100% ethyl alcohol. Clear in three changes of xylene, 10 dips each; coverslip with compatible mounting medium.

RESULTS:

Nuclei	Pink-red
Cytoplasm	Pale pink
Other tissue components	Dependent on stain procedure used

PROCEDURE NOTES:

1. Drain slides after each step to prevent solution carry over.
2. Do not allow sections to dry out at any point during procedure.
3. Precipitate will normally settle out of Nuclear Fast Red Stain, Kernechtrot, and can be redistributed by shaking the solution well before each use. Do not filter precipitate out.
4. Wash well after Nuclear Fast Red Stain, Kernechtrot to avoid cloudiness in dehydration steps.
5. If using a xylene substitute, closely follow the manufacturer's recommendations for deparaffinization and clearing steps.

REFERENCES:

1. Carson, Freida L., and Christa Hladik. *Histotechnology: A Self-Instructional Text*. 3rd ed. Chicago, Ill.: American Society of Clinical Pathologists, 2009. 145-146.
2. Kiernan, John. *Histological & Histochemical Methods*. 3rd ed. New York: Oxford University Press, 2003.96,114.
3. Sheehan, Dezna C., and Barbara B. Hrapchak. *Theory and Practice of Histotechnology*. 2nd ed. St. Louis: Mosby, 1980.183.
4. Modifications developed by Newcomer Supply Laboratory.