



PAPANICOLAU FOR CYTO PAP SMEARS

IVD

In Vitro Diagnostic Medical Device

Stability: 2 years under recommended storage conditions.

Storage conditions: Store at 15 - 25 °C, protected from fire and sunlight. Packing to be stored tightly closed.

Procedure duration: ~25 min.

Content:

Reagents:

A – Harris` s haematoxylin solution

B – Orange G- 6 stain solution

C – EA 50 / 65 polychromatic stain solution

N.B! EA 65 (Emmonya Biotech Ltd.) is an alternative for EA 50 stain, providing more intensive cytoplasm staining!

Application:

Stain solution for cyto PAP smears. The classical Papanicolau test for cervical cancer screening was named on its inventor Dr. George Papanicolau. It includes examination of vaginal smears. The Papanicolau test is cytological one and examines the presence of abnormal cervical cells in the smear.

NB B!: The clinical interpretation of any staining, or its absence, should be complemented by morphological studies and proper controls, and should be evaluated within the context of the patient` s clinical history and other diagnostic tests by a qualified pathologist.

All reagents have been optimally prepared for use and require no mixing or diluting.

Method:

For Pap smears staining, pre - fixation in 96 % Ethanol is needed . The material is smeared on the glass and fixed before drying. The best is to submerge the smear in 96 % Ethanol for at least 10 min. Other fixatives can also be used – Saccomano` s fixative etc. After fixation samples can be transported, examined, etc.

1. Immerse in
 - 95 % Ethanol – **10 dips**
 - 80 % Ethanol – **10 dips**
 - 70 % Ethanol – **10 dips**
 - 50 % Ethanol – **10 dips**
 - Distilled water – **10 dips**
in order to remove the fixative from smear.
 - 2 Put in reagent A for **3-5 min** (due to laboratory requirements).
 - 3 Rinse and bluish under tap water (optional) – **3 min**.
 - 4 Wash in
 - 70% Ethanol – **10 dips**
 - 80 % Ethanol – **10 dips**
 - 95 % Ethanol – **10 dips**
 5. Put in reagent B for **3 min**.
 - 6 Wash in 95% Ethanol - **10 dips**.
 7. Put in reagent C for at least **6 min** (if staining duration is less than 6 min results may not be accurate!).
 8. Wash in 95% Ethanol **5 min**.
- Clear in mixture of equal volumes of Ethanol and Methanol absolute. Lighten in Xylene. Mount in resin (optional) and examine.

Results:

Nuclei - orange-brown to bluish-black

Cytoplasm

- Of superficial cells (keratinized cytoplasm) – orange- pink
- Of metaplasia cells – with both blue and pink
- Of intermediate and parabasal cells (basophilic cytoplasm) – blue- green (EA50) to turquoise (EA65).
- Eosinophilic cytoplasm - pink

Microorganisms – blue-violet to blue-black

Erythrocytes - red

References:

- 1 Papanicolau GN: A new procedure for staining vaginal smears. Science 95(2469):438-439, 1942.
- 2 Studies on Papanicolau staining. II. Quantitation of dye components bound to cervical cells. Analytical and Quantitative Cytology, Vol. 1, № 3, 1979, p. 160 - 168 – P. N. Marshall, W. Galbraith, J. W. Bacus
- 3 Advanced Laboratory Methods in Histology and pathology – Ulrika V. Mikel (editor) – Armed Forces Institute of Pathology, 1994
- 4 History of cytodiagnostics – Journal of Clinical Pathology, 1977, № 30, p. 1091 - 1102 – Arthur I. Spriggs

- 5 NCCLS. Papanicolaou Technique; Approved Guideline — Second Edition. NCCLS document GP 15 - A 2 [ISBN 1 - 56238 - 418 - X]. NCCLS, 940 West Valley Road, Suite 1400 , Wayne, Pennsylvania 19087 - 1898 USA, 2001
- 6 Test de Papanicolaou : intérêt et limites d'une method de dépistage importante – l'Alliance pour la prévention du cancer cervical
- 7 DAKO

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