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| **Diff Quik Stain** |
| **Purpose** | To demonstrate and differentiate a variety of smears, commonly blood and non-gynecological smears, including those of fine needle aspirates. |
| **Policy Statements** | This procedure applies to Histology Technical staff performing special stains. |
| **Principle** | This stain is a modification of the original Romanovsky procedure and is designated as a polychrome stain because it imparts metachromatic qualities to cell constituents and possesses the ability to color leukocyte granules differentially. This stain is insoluble in water but readily dissolved in methyl alcohol. |
| **Materials** | **Supplies** | **Reagents** |
|  | • PPE• Coplin jars with lids• Slide forceps | • Methanol• Solution I• Solution II |
| **Sample** | Imprint/ “touch prep” smears; Cytological preparations; blood/ Bone marrow smears: air-dried. |
| Forms | Interventional Radiology Request for Pathology Form |
| **Quality Controls** | Smears and preparations have internal controls for staining. Additional or separate control slides are not indicated. |
| **Special Safety Precautions** | The Diff-Quik Stain set is a Methanol-based stain: do not use heat.Dispose of stain and fixative in manner similar to Wright’s-Giemsa stain and/or Methanol waste. |
| **Stock Solutions** | Methanol Solution I- Buffered Eosin YSolution II- Thiazine Dye |
| **Working Solutions** | **All other Reagents are purchased from DADE-Behring/ Cardinal Health ready to use.** |
| **Procedure** | **Step** | **Action** |
|  | 1 | Air dry slide  |
|  | 2 | Dip slides in Fixative Solution for 20 quick dips. Allow excess to run off slide |
|  | 3 | Dip slides in Solution I: Buffered Eosin Y for 20 quick dips. Allow excess to run off slide |
|  | 4 | Dip slides in Solution II: Thiazine Dye for 20 quick dips. Allow excess to run off slide |
|  | 5 | Rinse slide in Distilled water |
|  | 6 | Wet mount by dropping coverslip on wet slidePermanent slides are air dried, dipped in xylene and coverslipped |
| **Results** | Erythrocytes …………………………… Pink or orange-redPlatelets ……………………………….....Violet to purple granulesLeukocytes, Granular Neutrophils ……Nucleus: dark blue/ Cytoplasm: pale pink/ Granules: red/lilacEosinophils ……………………………...Nucleus: blue / Cytoplasm: blue / Granules: red, red-orangeBasophils ………………………………...Nucleus: purple-dark blue/ Granules: dark purpleNon-granular Monocytes ……………….Nucleus (lobated): violet / Cytoplasm: sky blue Lymphocytes……………………………..Nucleus: violet / Cytoplasm: dark blueBacteria …………………………………..BlueArea between cells ……………………..Clear |
| **Result Reporting** | By Pathologist |
| **References** | Bancroft, J.D. and Stevens, A.: Theory and Practice of Histology Techniques. Churchill Livingston, Edinburgh, London and New York, pp. 210-212, 1977.American Journal of clinical Pathology, August 1973, Vol. 59:237-238, Brown, J.H. and Brenn,  |

**Historical Record**

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| Version | Revised by | Effective Date | Summary of Revisions |
| 1 |  |  | Initial version. |
| 2 | A. Dubbelde | 6/27/19 | Update format, add version, and update to match current staining procedure used. |
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