

Microscopic Examination

血液鏡檢組
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UCL



Microscopic Examination

- Blood(血液)
 - Blood parasites
 - Reticulocyte
 - WBC different count
- Body fluid(體液)
 - Pleural fluid, Peritoneal fluid, Synovial fluid and Semen
- Stool(糞便)
 - Parasites
- Urine(尿液)
 - Urine sediment

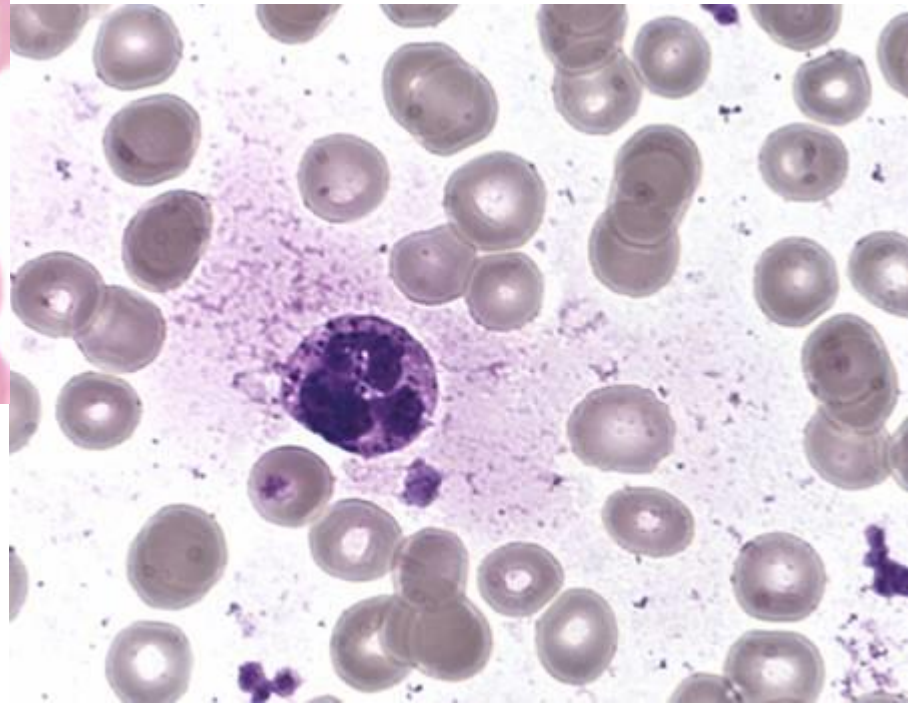
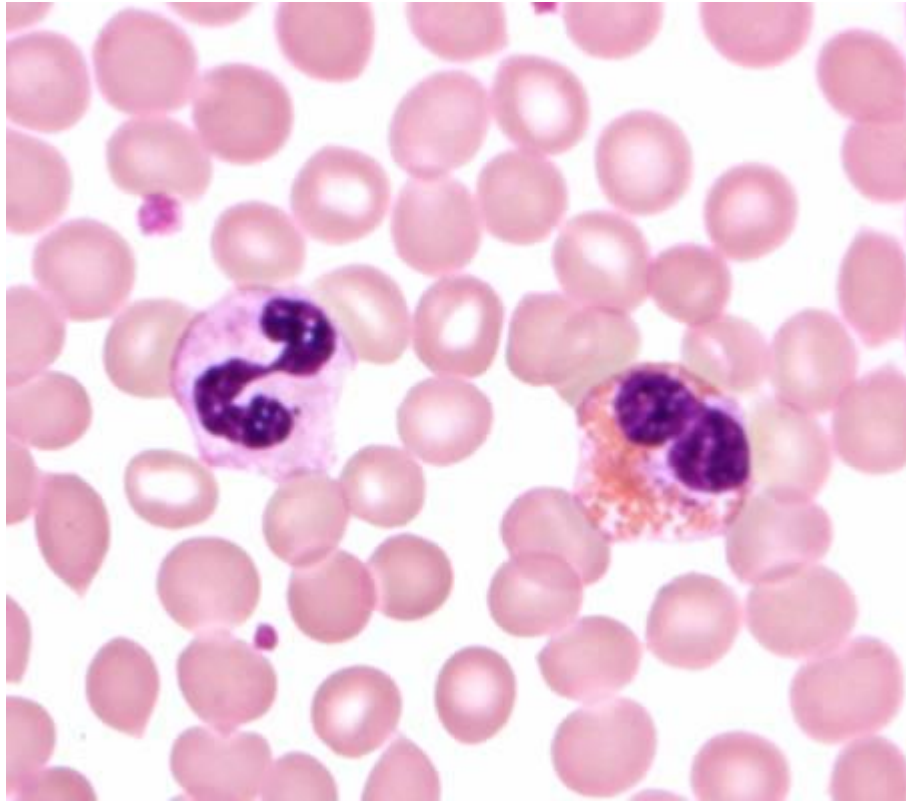
Staining(染色)

- Liu's Stain
 - WBC different count
 - Body fluid
- Brilliant cresyl blue (BCB)
 - Reticulocyte
- Giemsa Stain
 - Blood parasites
- MIF Stain
 - Stool parasites

Liu's Stain

- Named for Dr. 劉禎輝, who devised this stain in 1953
 - Widely used in blood smears in Taiwan
 - Histology, cytology, vaginal secretions, sputum, pus
- Material
 - Liu A: Methylene blue(0.4g/L), Eosin Y(2.4g/L) dissolved in *methanol solution*
 - Liu B: Azure B(1g/L) + methylene blue(1g/L) dissolved in *phosphate buffer(PH 8.0±0.1)*

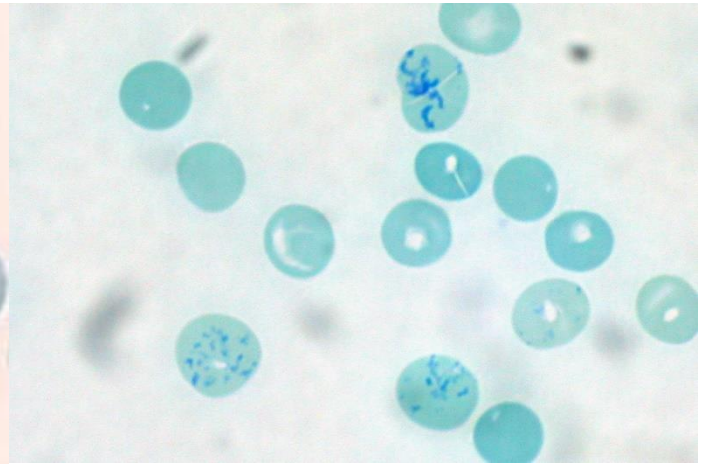
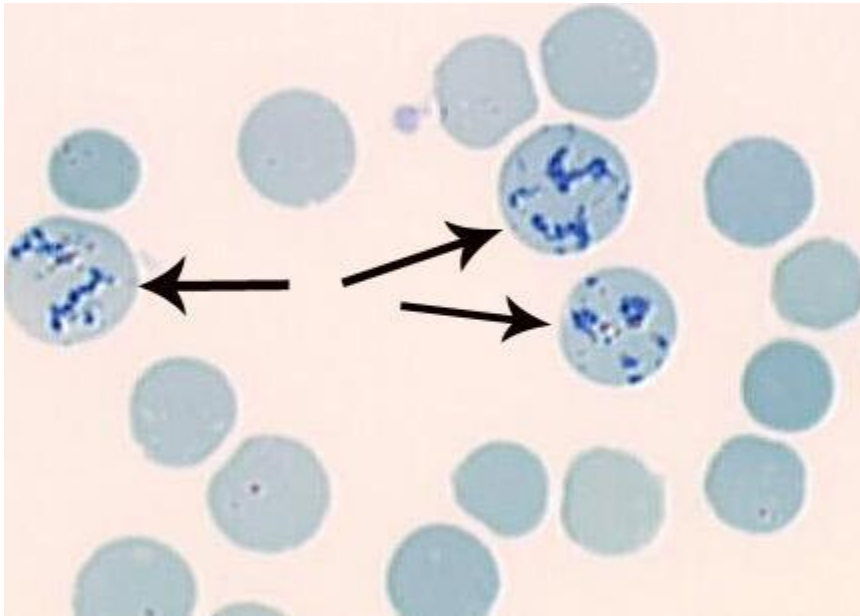
Liu's Stain



Reticulocyte

- Brilliant cresyl blue
- Reticulocytes are immature red blood cells
- A reticular (mesh-like) network of ribosomal RNA
- The number of reticulocytes is a good indicator of bone marrow activity
- 正常參考值：
成人 0.5 ~ 1.5 % ； 1 歲以內 0.2 ~ 5.0 %

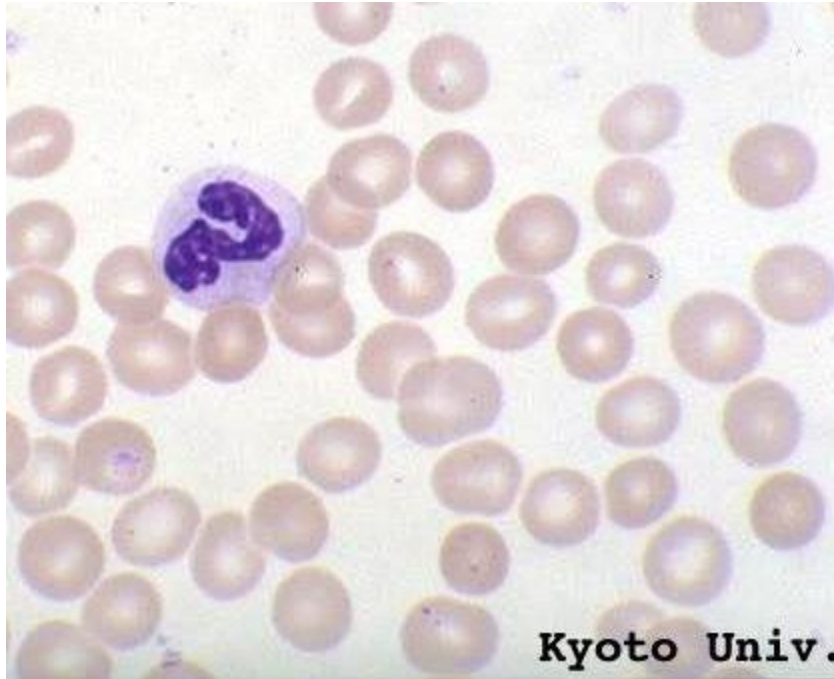
Reticulocyte



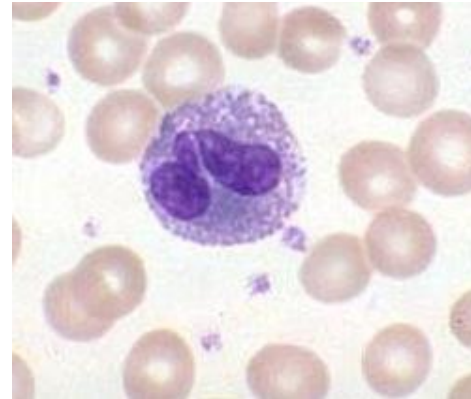
Giemsa Stain

- Named for *Gustav Giemsa*(German)
 - Initially used in malaria and parasites.
 - Sometimes used for blood films, but more suitable for sections. For its more consistent results.
- Material
 - Giemsa powder: Azure II with Azure II eosinate
 - Buffer solution

Giemsa Stain



↑Neutrophil

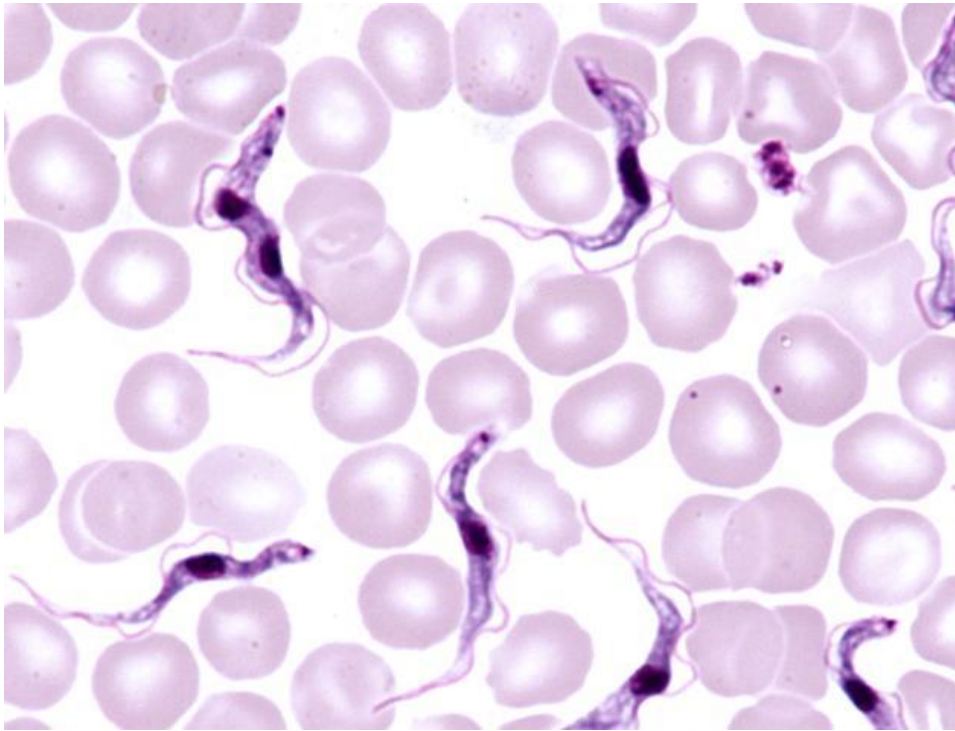


↑Eosinophil

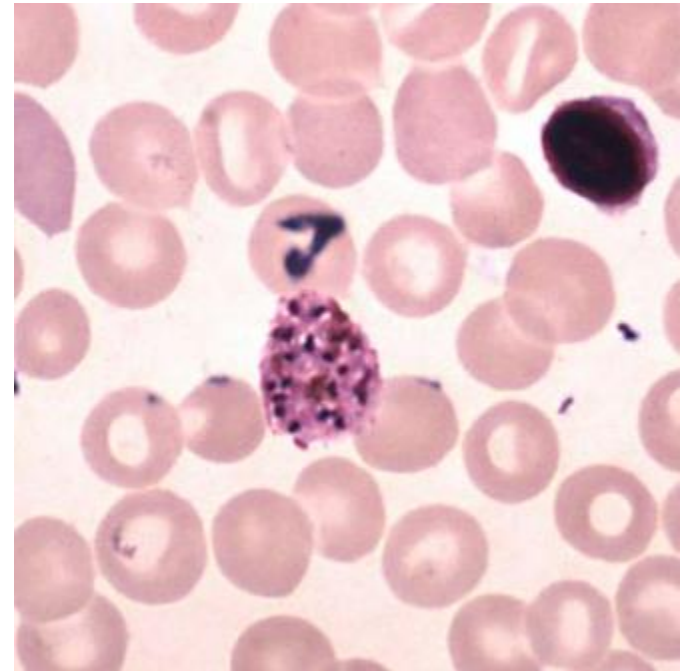


↑Basophil

Giemsa Stain



Trypanosoma brucei 布氏錐蟲



Plasmodium vivax 間日瘧原蟲

MIF Stain

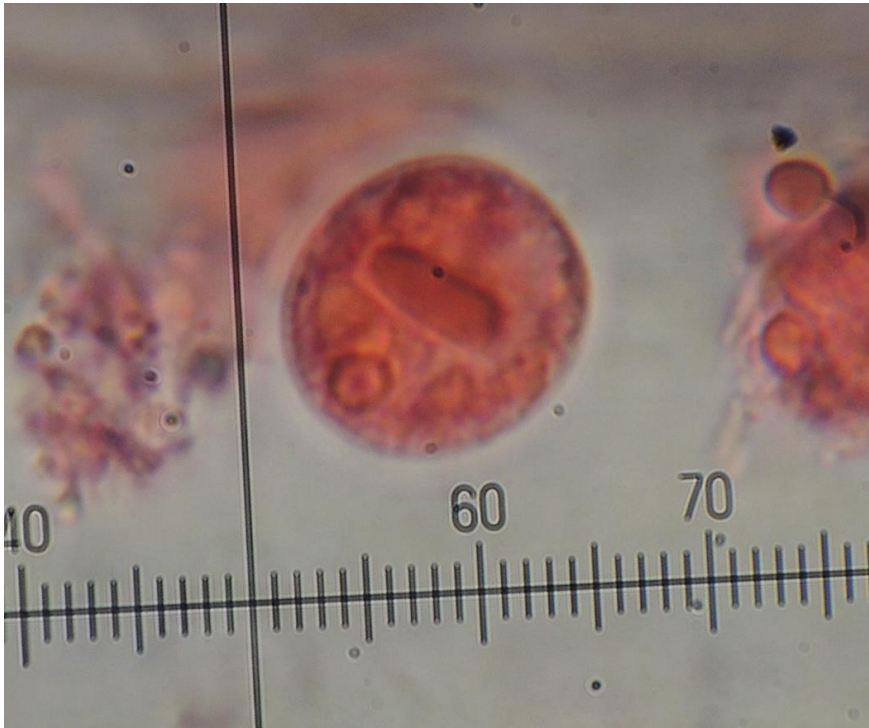
- 寄生蟲濃縮法
- 阿米巴痢疾

- Material

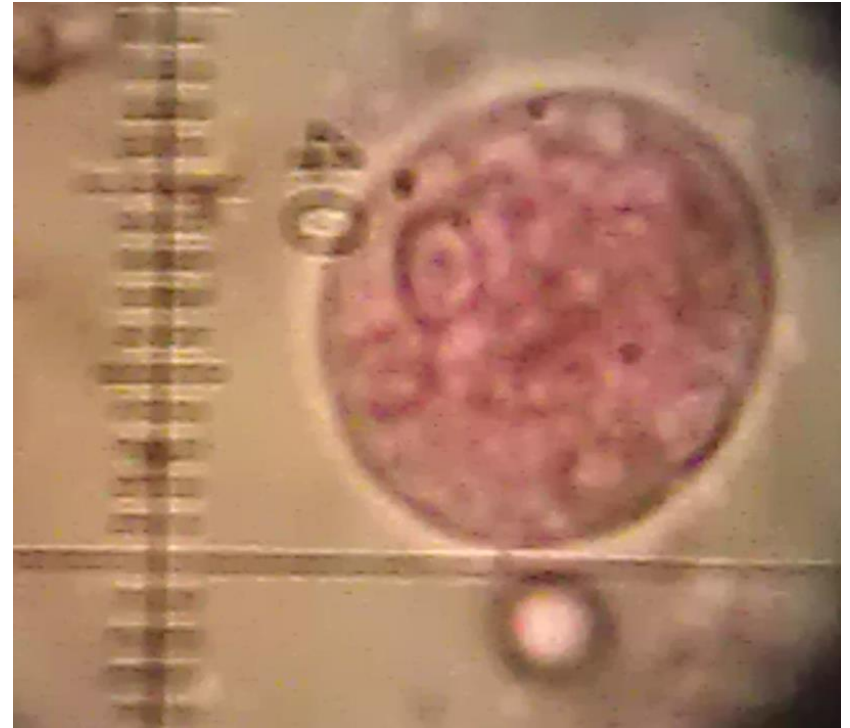
- MF Stock Solution
- Lugol Solution: Iodine + Potassium Iodine
- Ethyl Acetate

MF Stock Solution : Lugol Solution = 15 : 1 (原廠說明)

MIF Stain



阿米巴痢疾 *Entamoeba histolytica*



大腸阿米巴 *Entamoeba coli* Cyst