



Protocol n° 25

Giemsa Staining in Parasitology and Mycology

Principle:

Giemsa technique is the most useful panoptic staining method in parasitology, namely in the field of tissular and blood protozoa. It can be used in medical and veterinary mycology.

Giemsa stains cytoplasmic structures in blue, and nuclear structures or other DNA-containing organites (like the kinetoplast of trypanosomatidae) in purple red.

Necessary staining products:

Giemsa R solution Ref. 320310-	0125, 0500, 1000 or 2500 mL
pH=7.0 Buffer Solution for Haematology Ref. 330370-	1000 or 5000 mL
pH=7.0 Buffer Powder (6 doses) Ref. 361600-	6 doses for 6 x 1L

Specimen preparation:

Specimen must be treated in accordance with procedures available in the laboratory and promulgated by national authorities.

Staining procedure:

Please read all this information carefully before using this device.

- Fix the air-dried smear in methanol for 1 to 2 minutes.
- Quickly rinse with tap water

- Stain the slide with Giemsa R solution diluted to 1/10 with Buffer Solution (beforehand reconstituted or ready-to-use) during 20 minutes
- Quickly rinse with tap water and allow the slide to dry in the open air.

Results:

Cytoplasm of host, fungic or parasitic eukaryotic cells: blue more or less dark, depending on the ribosomal richness.

Nucleus: purple red

Recommendations and/or Note of use:

For professional use only.

In vitro use only.

The collection and processing of chemical biological waste must be conducted by specialized and registered companies

Storage: 15 – 25 °C

Giemsa R Solution allows to detect and characterize:

- Blood parasites: *Plasmodium*, *Trypanosoma spp*, microfilaria.
 - Tissular protozoa (*Leishmania spp*), *Toxoplasma*, *Cryptosporidium* (digestive coccidium), flagella (e.g. those of *Trichomonas spp*), microsporidia.
- The Parietal structures of fungi and the cystic forms of *Pneumocystis carinii* are not stained but appear like a clear halo.

Bibliography:

BESSIS M., *Réinterprétation des frottis sanguins*, éd. Masson Springer, 1976, p. 9.
DATRY A., LESCO G., RICHARD-LENOBLE D., KOMBILA M., *Coloration rapide des plasmodies et des microfilaires par les colorants solubles dans l'eau*, Med. Trop., vol. 42, n°6, nov-dec. 1982, p. 673-675.