

## Atlas Giemsa Stain

**IVD** For in -vitro diagnostic use only

 Store at Room Temperature

### Intended use

For histopathological diagnosis of Malaria and other parasites.

### Principle

Giemsa stain used to differentiate nuclear and /or cytoplasmic morphology of platelets. RBCs, WBCs and parasites. the most dependable stain for blood parasites , particularly in thick films is giemsa stain containing azure b liquid stock is available commercially , the stain must be diluted for use with Water buffered to ph 6.8 or 7.0 to 7.2 , depending on the specific technique used , either should be tested for proper staining reaction before use , the stock is stable for years , but it must be protected form moisture because the staining reaction is oxidative , therefore , the oxygen In water will initiate the reaction and ruin the stock stain , the aqueous working dilution of stain is good only for one day.

### Material Provided

- Giemsa Stain
- Package Insert

### Procedure

#### Thick Film method

##### (For demonstrating Malarial Parasites)

1. Prepare a thick film by spreading 3-5 drops of blood in a circle about 15mm diameter on a slide.
2. Allow to dry on a level surface for 18-24 hours at room temperature or for 2-3 hours at 37°C. Protect slides from dust while drying.
3. Do not fix slide.
4. Stain for up to 40 minutes in a mixture consisting of 1 part of Giemsa stain and up to \*50 parts of distilled water buffered to pH 7.2 (Rapid Giemsa may require less staining time).  
\*Actual dilution will depend on personal preference as to staining intensity etcetera.
5. Wash for 5 to 10 minutes in distilled or deionized water, drain and air dry.

### Geimsa Stain – Rapid for Malaria- LSHTM Method

Geimsa belongs to a group of ‘blood’ stains commonly referred to as ‘Romanowsky’ stains. These are all variants of the original Romanowsky stain which was a mixture of eosin and polychrome Methylene blue. Such stains as Leishman, Wright’s Blood Stain and May Granwald/Giemsa are commonly used in hematology laboratories in the UK and all of these are used at a slightly acid pH (pH 6.8). staining at acid pH, although ideal for routine hematological purposes, is less than ideal for Malaria and other blood parasites which should be stained at the slightly alkaline pH 7.2. Staining at the higher pH, especially with Giemsa Stain, ensures that all of the morphological features required for differential diagnosis of Malaria show up (eg. Schuffer’s dots, Maurer’s clefts etc). These features are usually absent when acid stains are used and this can lead difficulty in making a species diagnosis with potentially serious consequences.

### Method for Thin Films

1. Prepare blood smear and allow to dry at room temperature.
2. Fix the films by covering with absolute methanol (methyl Alcohol) for 30 seconds
3. Place slide directly to a staining jar containing Atlas geimsa Stain without diluted it.
4. Leave for 30 sec to 1 minute.
5. Remove the slide from stain jar without wash it with any solution.
6. Put the slide horizontally on the staining rack or on the flat surface. (So that the sample at the top).
7. Before the stain is dry, gently add the distilled water or PBS buffer (6-8 pH) drop by drop (to cover the blood smear).
8. Leave it for 4 minutes.
9. Pick off the slide from the edge and wash in a gentle flow of tap water; then stand the slide in an upright position to drain dry.
10. Put the slide under the microscope and read it.

### Geimsa Stain – Rapid method for faeces

Giemsa stain can also be used to stain films of unformed faeces, faecal exudates, duodenal aspirates etc.

## Method

1. Make a thin film of faeces/exudates. Allow to dry.
2. Fix in methanol for 1 min
3. Pour off the methanol and flood the slide with Giemsa stain diluted 1:10 with buffered distilled water pH 7.2 the diluted stain must be freshly prepared each time.
4. Stain for 20-25 min
5. Run tap water on to the slide to float off the stain and to prevent deposition of precipitate on to the film. Allow to drain dry.
6. Examine the film using the oil immersion objective and immersion oil.

## Results

- Parasite nuclei and structures containing chromatin – **red**
- Cytoplasm – **bluish- grey**
- Leukocytes nuclei – **purple**
- Yeasts and bacteria – **dark blue**



Atlas Medical












William James House,  
Cowley Road, Cambridge, CB4 5WX, UK

Tel: ++44 (0) 1223 858 910

Fax: ++44 (0) 1223 858 524

PPI079A01

Rev E (03.11.2015)

 REF	Product Reference No.	 IVD	For in-vitro diagnostic use.
	Caution.		Store at
	Read product insert before use.		Number of tests in the pack.
	Lot (batch) number.		Manufacturer.
	Expiry date.		Manufacturer telephone number.
	Manufacturer fax number.		