



## Albert's Metachromatic Stains Kit

K002L

### Intended Use

Albert's Metachromatic Stains Kit is used for observing metachromatic granules.

### Composition\*\*

#### Ingredients

<b>Albert's stain A(S001)</b>	-
Toluidine blue	0.150 gm
Malachite green	0.200 gm
Glacial acetic acid	1.000 ml
Ethyl alcohol, 95%	2.000 ml
Distilled water	100.000 ml
<b>Albert's Stain B(S002)</b>	-
Iodine crystals	2.000 gm
Potassium iodide	3.000 gm
Distilled water	300.000 ml

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

1. Prepare a thin smear on a clean dry glass slide.
2. Allow it to dry and fix with gentle heat.
3. Stain with Alberts Stain A (S001) for 3-5 minutes.
4. Drain the solution, do not wash.
5. Apply Alberts Stain B (S002) for 1 minute.
6. Rinse with water, blot dry and examine under oil immersion objective.

### Principle And Interpretation

Albert's Metachromatic Stain demonstrates the presence of metachromatic granules found in *Corynebacterium diphtheria*. The storage granules in this bacterium is called metachromatic granules because it exhibits the property of metachromasia, wherein the granules appear in a colour other than the colour used for staining. When stained with polychrome methylene blue, the granules appear violet while the rest of the bacillus appears blue. The granules are made up of polymetaphosphates and are known by various other names such as volutin bodies, Babe-Ernst granules or polar bodies. The bacterium produces the granules in abundance when grown on nutrient rich medium such as Loeffler's serum slope. The granules stain purple-black against the light green counterstained cytoplasm. This helps to distinguish diphtheria from most of the short nonpathogenic diphtheroides which lack granules. There are two reagents that are used in the staining process: Albert's A solution and Albert's B solution. Albert's A solution consists of Toluidine blue, malachite green, glacial acetic acid, and ethyl alcohol. Albert's B solution contains Iodine and Potassium iodide in water.

### Type of specimen

Clinical samples; food & dairy samples; Water samples

### Specimen Collection and Handling:

For clinical samples follow appropriate techniques for handling specimens as per established guidelines. For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines. For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards. After use, contaminated materials must be sterilized by autoclaving before discarding.

### Warning and Precautions :

In Vitro diagnostic Use only. Read the label before opening the container. Wear protective gloves/protective clothing/ eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets

## Limitations

1. Washing of the stain should be avoided unlike other staining methods because malachite green is highly soluble in water and quality of stain fades if washing incorporated.

## Performance and Evaluation

Performance of the product is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

## Quality Control

### Microscopic Examination

Metachromatic staining is carried out where Albert's Stain A is used as one of the stains and staining characteristic of organism is observed under microscope by using oil immersion lens.

### Results

The metachromatic granules of Diphtheria bacilli stain black and the cytoplasm stains light green.

## Storage and Shelf Life

Store between 10 - 30°C in tightly closed container and away from bright light. Use before expiry date on label. On opening, product should be properly stored in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use.

## Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques.

## Reference

1. Collee J. G./Fraser A.G., Marmion B.P./Simmons A., 1996, 14th ed., MACKIE McCARTNEY, PRACTICAL MEDICAL MICROBIOLOGY: 45(803-804).
2. George Clark et al, 1981, 4th ed., Staining procedures: 17(402-406).
3. Godkar B. P., 1996, Textbook of medical laboratory technology: 23(315).

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In vitro diagnostic medical device



CE Marking



Storage temperature



Do not use if package is damaged



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