IVD

GMS STAIN KIT
(SS008-25)

INTENDED USE

BioMarq GMS Stain Kit is used for *in vitro* diagnostic use. GMS Stain is intended for use in the histologic visualization of fungi, basement membrane and some opportunistic organisms such as Pneumocystis carinii. Pneumocystis carinii is an opportunistic pathogen that causes severe pulmonary disease in humans with acquired, induced, or inherited immune deficiency syndromes. Also the stain helps in identification of Actinomyces, Nocardia and related species. The results using this product should be interpreted by a qualified pathologist in conjunction with the patient's relevant clinical history, other diagnostic tests and proper controls.

PRODUCT DESCRIPTION

The polysaccharide molecules in the cell wall of fungi are oxidized with chromic acid to di aldehydes which are then precipitated with silver solution there by staining fungi grey /black. Gold chloride acts as an intensifier & Hypo removes unreduced silver. The counter stain here is light green.

KIT CONTENTS

Chromic Acid (SS022-8D)	1x8ml
Silver Stock (SS023-5D)	1x5ml
Silver Diluent (SS024-5D)	1x5ml
Gold Chloride (SS025-8D)	1x8ml
Hypo 5 % (SS019-8D)	1x8ml
Light Green (SS045-8D)	1x8ml

MATERIALS REQUIRED BUT NOT PROVIDED

Microscope slides
Xylene/ Xylene substitute
Reagent alcohol/Ethanol
Deionized or distilled water
Wash buffer
Tissue controls
Mounting Solutions

STORAGE AND STABILITY

Store at 2-8°C. Do not freeze. Not to be used beyond the expiration date prescribed on label.

SPECIMEN PREPARATION

Fixation: 10% NBF or Carnoy's fixative.
Paraffin Sections: Cut sections at 4-5 microns.

RECOMMENDED PROTOCOL

Deparaffinize with xylene/ xylene substitute and rehydrate through graded alcohols to deionized water. Wash the slide with SS Wash Solution for 3 times.

Oxidize the slides in 300ul of chromic acid solution for 30 min. Wash the slide with SS Wash Solution for 3 times.

Treat the slides with 300ul GMS working solution for fungi 15min. Wash the slide with SS Wash Solution for 3 times.

Again stain the slides with 300ul GMS working solution for fungi 15min. Wash the slide with SS Wash Solution for 3 times.

Tone the slides with 300ul of Gold Chloride solution for 5 min. Wash the slide with SS Wash Solution for 3 times.

Treat the slides with 300ul of Hypo 5% for 2 min to remove excess gold chloride. Wash the slide with SS Wash Solution for 3 times.

Apply 300ul of counterstain i.e., Light green for 2-3 min and blot the slides.

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Dehydrate, clear in xylene or its substitute & mount the slides with BioMarq XY-Mount (Catalog No MS002) or using BioMarq T-Mount (Catalog No MS003).

TECHNICAL NOTE

Bring all reagents to RT before use

Gently invert all reagents prior to use

Thickness of section may affect the intensity of staining

Follow the protocol recommendations provided in the data sheet. If atypical results occur, contact BioMarq Technical Support at 040-29702960.

RECOMMENDED CONTROL

FUNGI INFECTED TISSUES
Users can also procure the Qualified Positive Control Slides available from BioMarq for their Quality Control purpose.

STAINING INTERPRETATION

Glycogen & fungi - Grey/Black
Background – Light Green.

For image please visit our web site ***www.biomarq.net***

PRECAUTIONS

Specimens should be handled carefully before and after the assay to avoid transmission of infection and disposed of with proper precautions
When working with Special Stain chemicals, always wear a suitable lab coat, disposable gloves, and protective goggles

For detailed safety information related to BioMarq Products, please refer to appropriate safety data sheets (SDS) available online at www.biomarq.net

REFERENCES

1. Bancroft et al, Theory and Practice of Histological Techniques, Churchill Livingstone Elsevier, 2008.

2. Jeannette Guarner et al, Histopathologic Diagnosis of Fungal Infections in the 21st Century, Clin Microbiol Rev, 2011 April.

3. Grocott, R G, “A Stain for Fungi in Tissue Sections and Smears using Gomori Methenamine Silver Nitrate Technic”. American Journal of Clinical Pathology 25 (1955): 975-979.

4. Koski, John. "Silver Methenamine Borate (SMB): Cost Reduction with Technical Improvement in Silver Nitrate-Gold Chloride Impregnations." The Journal of Histotechnology 4.3 (1981): 115- 119.

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