SILVER METHENAMINE
P.A.S.M.                                          microwave procedure
04 – 043822W

[IVD] In-vitro diagnostic medical device
CND Code: W01030799

number of tests ........................................... 40 preparations of 35 ml (120 tests maximum
procedure time ........................................... 45 minutes
product validity .......................................... 1 year
storage temperature .................................. 2-8 °C
complementary equipment .................. plastic Coplin Jar 50 ml, glass stick

Expected aim
Product for the preparation of cyto-histological samples for optical microscopy.

Application
To show argyrophilic elements and mucopolysaccharides (basal membranes, mycetes, bacteria etc.) in
tissue sections. Recommended method to examine basal membrane in renal biopsy.

Principle
Periodic acid reacts with glycolic and glycoaminic groups in mucopolysaccharide chain oxidating them to
aldehydic groups and thus breaking the chain itself. These newly-formed aldehydic groups reduce silver
chloride, which is part of the silver-methenamine complex, to metallic silver and make it visible.

Method
1) Bring section to distilled water.
2) Put 10 drops of reagent A on the section: leave to act for 30 minutes.
3) Rinse in distilled water.
4) In a Coplin Jar 50 ml, put 35 ml of distilled water and add: 30 drops of reagent B, 15 drops of reagent
   C, 20 drops of reagent D. Stir briefly with a glass stick previously washed in distilled water.
5) Introduce section in the Coplin Jar and incubate in microwave oven at 500 watt for 60 seconds.
6) Take out the Coplin Jar from the oven, let it cool for 5 minutes.
7) Wash in 2 changes of distilled water.
8) Put on the section 10 drops of reagent E: leave to act 1 minute.
9) Rinse in distilled water.
10) Put on the section 10 drops of reagent F: leave to act 1 minute.
11) Rinse in distilled water.
12) Dehydrate through ascending alcohols, clear in xylene and mount.

Results
Basement membranes, glycogen, mycetes and bacterial capsule .................................................... black

Reagents
A) Periodic acid solution ................................................... 30 ml
B) Hexamethylenetetramine solution .................................... 30 ml
C) Silver nitrate solution .................................................... 30 ml
D) Sodium tetraborate solution ........................................... 30 ml
E) Gold chloride solution .................................................. 30 ml
F) Fixing solution ............................................................... 30 ml

Warning and precaution
As in all reactions with silver salts, it is essential to use perfectly clean glassware and excellent distilled or
deionized water. Do not touch reagents containing silver salts with metallic objects (tweezers etc.).

The product must be used exclusively by specialized technical operators.
The product is classified as hazardous.
Read with attention the information written on the label (dangerous symbols, risks and safety phrases).
Consult always the safety data sheet where the information about the risks of the preparation,
precautionary measures during use, first aid and disposal are available. Do not use if primary packaging
is damaged.

Storage
Store the preparation at 2-8°C. Keep the containers tightly closed.

Stability
After the first opening, the product is usable until the expiry date, if correctly stored.

Disposal
Hazardous preparation: observe all state and local environmental regulations regarding waste disposal.

References
- Lillie R D. Argentaffin and Schiff reactions after periodic acid oxidation and aldehyde blocking. J. Histochem. Citochem., 2: 127; 1954

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