

**SP944**

**GCC**

## **Grimelius Argyrophil reaction**

### **General & useage information**

Argyrophil cells are found in the same general location of the argentaffin cells. Argentaffin cells will have a positive reaction with the argyrophil techniques, but the argyrophil cells will not react with the argentaffin techniques. This procedure can be used for the differentiation of carcinoid tumors.

Argyrophil cells are capable of being impregnated with silver, but need a reducing agent to reduce the silver ions to visible metallic silve. While argentaffin cells have both the ability of being impregnated with silver ions and also reducing the silver to a visible deposit without the use of a reducing agent.

### **Kit Contents.**

Acidulated water conc 250ml x 2 Silver stain 100ml x 1  
Reducing agent capsules 10 capsules

Materials required but not provided.

Fixation in 10% fomalin, dehydration alcohols, xylene, DPX mountant

### **Control tissue.**

Small intestine or tissue know to be positive for argyrophil granules.

### **Prepare the following reagents.**

1 - To 1000ml of deioninsed water at room temperature, using a pH meter add the acidulated water concentrate until the pH is 4.20. Make fresh and discard after use. Use this pH 4.20 acidulated water to prepare the other reagents and to use as a rinse in the procedure.

2 - To 45 ml pH4.20 acidulated water add 5 ml Silver stain conc, mix well. Use and discard after use.

3 - Dissolve one reducing agent capsule in 50ml pH4.20 acidulated water and dissolve, use fresh and discard after use.

### **Procedure (Coventional and microwave ).**

- 1 - Cut paraffin sections 4 u.
- 2 - De-wax and hydrate to pH4.20 acidulated water prepared above
- 3 - Place slides in silver solution and heat reagent to 60 Deg C for 1 hour.
- 4 - Heat reducing solution to 58 Deg C and place slide in this reagent for 5 minutes.
- 5 - Rinse in 3 changes of hot ( 40 - 50 Deg C) pH4.20 acidulated water.
- 6 - Return slides to hot (58 Deg C) silver reagent for 10 minutes.
- 7 - Rinse once in hot acidulated water.
- 8 - Place slides in hot reducing solution (58 Deg C) for 10 minutes.

At this stage check microscopically for black cytoplasmic granules, if the reaction is weak, steps 6 - 8 can be repeated.

- 9 - Rinse in tap water for 1-2- minutes.
- 10 - Dehydrate, clear and coverslip in DPX.

### **Microwave modification**

Alter the steps indicated above as follows:

- 2 - Place slides in silver reagent, microwave on medium power for 60 seconds.
- 4 - Heat reducing solution in microwave on high power for 55 seconds, then add the slides to the hot solution for 3 - 5 minutes.
- 6 - Add slides to Silver solution, microwave on medium power for 30 seconds.
- 8 - Reheat reducing solution on high power for 15 seconds. Place slides in hot solution for 1-2 minutes. Check microscopically for black cytoplasmic granules. Repeat steps 6-8 if required.

### **Results.**

Argyrophillic cells - black Background - yellow - gold.

### **Safety Data Section**

Use the usual laboratory safety precautions when handling these reagents, gloves, goggles, lab coat etc. Store kit components in the dark at room temperature. The acidulant concentrate is suitable on for use in the absence of microbial growth. If microbial growth occurs before expiry of shelf life please contact us for a replacement. Silver stain reagent will irritate eyes and skin and cause black burns to skin. If in contact with eyes and skin wash immediately in soap and water for skin or use an eye batch for the eyes. If ingested may cause violent gastrointestinal discomfort. Possible carcinogen: equivocal tomorigenic agent. Reducing reagent and capsules may be irritant to eyes and respiratory system. Avoid breathing vapour. Toxic if ingested. R: 20-21-22-45- S: 2-26-36

### **Spillage & Waste Disposal**

Mop up kit contents with cloth and rinse with tap water to Public Sewer. Dispose of waste reagents to Public Sewer diluting greatly with tap water.

GCC diagnostics guarantees that the highest quality reagents are supplied with this product to give reliable results time and again and that this product conforms to the information contained in this leaflet. The user should however, determine the suitability of this product for their particular use.

If you wish to report any findings to us or if you require any help or further information please contact us.

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