

## Von Kossa (method for calcium), Kit

Reference: AP0400



1 of 2

### INTENDED USE AND PRESENTATION:

For *in vitro* diagnostic use.

AP0400. 100 Tests.

### APPLICATIONS:

The Von Kossa (method for calcium) kit was designed to demonstrate deposits of calcium ions in tissue sections.

The interpretation of the stain results is the full responsibility of the user. Any experimental result must be confirmed by a medically established diagnostic product or procedure.

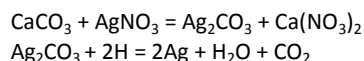
### PRODUCT COMPOSITION:

The Von Kossa (method for calcium) kit is composed by:

Reagent	Name	Volume	Storage
A	Lithium carbonate saturated solution	30 mL	2-8 °C
B	Silver nitrate solution	30 mL	2-8 °C
C	Reducing solution	30 mL	2-8 °C
D	Sodium sulphite solution	30 mL	2-8 °C
E	Mayer's Carmalum	30 mL	2-8 °C

### METHODS AND PROCEDURE:

**Principles of the method:** This method is based on a substitution reaction. Tissue is treated with a silver nitrate solution; cationic silver replaces calcium in the original salt thus forming a silver salt which can be showed by a reduction to metallic silver. Reaction is as follows:



Calcium salts liable to react with silver nitrate are: carbonate, phosphate, oxalate, sulfate, urate, chloride, sulfocyanide. Since calcium is present in mammalian tissue essentially in the form of calcium carbonate and calcium phosphate, this method is suitable to point it out. To prevent false results caused by the presence of uric acid and urates in the tissue, these salts have been solubilized in a lithium carbonate saturated solution.

**Specimen:** Paraffin-embedded tissue samples should be used.

**Procedure time:** 1 hour 25 minutes.

#### Staining procedure:

- 1) Deparaffinize and hydrate for paraffin section.
- 2) Put the slide in distilled water.
- 3) Put on the section 5 drops of **Reagent A** and leave to act 10 minutes.
- 4) Wash in distilled water.
- 5) Put on the section 5 drops of **Reagent B** and leave to act in the dark 1 hour.
- 6) Wash in distilled water.
- 7) Put on the section 5 drops of distilled water and add 10 drops of **Reagent C**. Leave to act 5 minutes (until silver salts become black).
- 8) Rinse in distilled water.
- 9) Put on the section 5 drops of **Reagent D** and leave to act 5 minutes.
- 10) Rinse in distilled water.
- 11) Put on the section 5 drops of **Reagent E** and leave to act 5 minutes.
- 12) Rinse in distilled water.
- 13) Dehydrate in alcohols of increasing clear in xylene and mount preparation.

See our web site at [www.gennova-europe.com](http://www.gennova-europe.com) for detailed protocols ancillary reagents and support products.

### EXPECTED RESULTS:

During the reaction of the different solutions of the kit with the tissue sections, resulting in the following stains:

Sites calcium deposits	Black
Nuclei	Red

### REQUIRED MATERIALS BUT NOT SUPPLIED:

All reagents, materials, and laboratory equipment for this procedure are not provided with this kit. This includes adhesive slides and cover slips, positive and negative control tissues, xylene or adequate substitute, ethanol, distilled H<sub>2</sub>O, pipettes, Coplin jars, glass jars, moist chamber, histological baths, mounting materials, and microscope.



Catalog number



Batch code



For *in vitro* diagnostic use



Temperature limitation



Expiration date



Test number



Manufacturer



See instruction for use



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2 of 2

Buffered solutions for and other auxiliary reagents are available from Genova Scientific.

### STORAGE AND STABILITY:

Store at 2-8 °C until the expiration date printed on product label. Do not use after the expiration date. Keep the containers tightly closed. After the first opening, the product is usable until the expiry date stated on label of intact product. Waste from solutions must be disposed under the procedure of hazardous substance. If the product is stored under different conditions from those stipulated in these technical indications, the new conditions must be verified by the user.

Genova Scientific guarantees that the product will maintain all of the described characteristics from the production date until the expiration date, as long as the product is stored and used as recommended. No other guarantees are provided. Under no circumstances is Genova Scientific obliged to cover damages caused by use of this reagent.

### TROUBLESHOOTING:

If unusual staining is observed or any other deviations from the expected results, please read these instructions carefully, and if this does not solve the problem, please contact Genova Scientific's technical support department or your local distributor.

### PRECAUTIONS:

Use only by qualified personnel. Read with attention the information written on the label (dangerous symbols, risks and safety phrases). Consult always the safety data sheet (MSDS) where the information about the risks of the preparation, precautionary measures during use, first aid and disposal are available. Use proper protective equipment in order to avoid contact with reagents and samples in the eyes, skin, and mucosal tissues. MSDS is available upon request.

### PERFORMANCE CHARACTERISTICS:

Genova Scientific has performed studies to evaluate the functioning of this product, concluding that the product is both specific and sensitive for recommended use.

### BIBLIOGRAPHY:

Armed Forces Institute of Pathology: Laboratory Methods in Histotechnology. Washington D.C. A.F.I.P. 1994; pag. 197.  
Cameron GR. The staining of calcium. J Path and Bact 1930; 33: 929-955.  
McGee-Russell SM. Histochemical methods of calcium. J Histochem and Cytochem. 1958; 6: 22-42.  
Von Kossa J. Ueber die im Organismus kuenstlich erzeugbren Verkakung. Beitr Path Anat 1901; 29:62.

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Catalog number



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For in vitro diagnostic use



Temperature limitation



Expiration date



Test number



Manufacturer



See instruction for use



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