



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!  
See the following pages for more information!



### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 



205 South 600 West Logan, Utah 84323, U.S.A. – Tel. (800) 729-8350 – Tel. (435) 755-9848 – Fax (435) 755-0015 – www.scytek.com Rev. 5, 7/19/2022

# Instructions For Use

## CVK-IFU

### Calcium Stain Kit

(Modified Von Kossa)

#### Description and Principle

The Calcium Stain Kit (Modified Von Kossa) is intended for use in the histological visualization of calcium deposits in paraffin sections. Calcium salts are impregnated by silver by reaction with carbonate and phosphate ions. Silver is reduced to visible metallic form by intense light.

#### Expected Results

Calcium in mass deposits:	Black
Calcium in dispersed deposits:	Gray
Nuclei:	Red
Cytoplasm:	Light Pink

#### Kit Contents

1. Silver Nitrate Solution (5%)	2-8°C
2. Sodium Thiosulfate Solution (5%)	18-25°C
3. Nuclear Fast Red Solution	2-25°C.

#### Storage

#### Suggested Controls (not provided)

Any fixed tissue that contains calcium deposits.

#### Uses/Limitations

For In-Vitro Diagnostic use only.  
Do not use if reagents become cloudy or precipitate  
Do not use past expiration date.  
Use caution when handling reagents.  
Non-Sterile  
Intended for FFPE sections cut at 5-10µm.  
This procedure has not been optimized for frozen sections.  
Frozen sections may require protocol modification.

#### Storage

Mixed storage conditions. Store according to individual label instructions.

#### Safety and Precautions

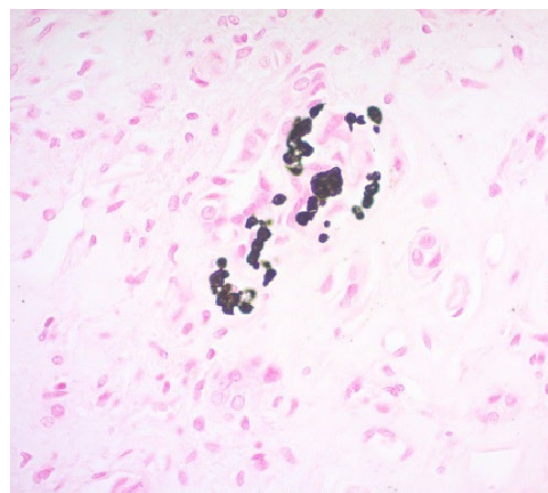
Please see current Safety Data Sheets (SDS) for this product and components GHS classification, pictograms, and full hazard/precautionary statements.

#### Important Notes

- All glassware used in this procedure should be chemically cleaned and rinsed thoroughly in distilled water.
- Do not use metal forceps to remove slides from reagents. Use plastic forceps only.
- Equilibrate all reagents to room temperature prior to use.

#### Procedure

- Deparaffinize sections if necessary and hydrate to distilled water.
- Incubate slide in Silver Nitrate Solution (5%) for 30-60 minutes while exposing to either ultraviolet light or incandescent light at 75 watts or greater. For best results, keep light source within 2 feet (61cm) of slide during Silver Nitrate staining procedure.
- Rinse in 3 changes of distilled water.
- Incubate slide in Sodium Thiosulfate Solution (5%) for 2 minutes.



Human tissue containing calcium deposits demonstrated by Calcium Stain (modified Von Kossa)

- Rinse for 2 minutes in running tap water followed by distilled water.
- Stain tissue section with Nuclear Fast Red Solution for 5 minutes.
- Rinse in 2 changes of distilled water.
- Dehydrate very quickly in 3 changes of Absolute Alcohol.
- Clear, and mount in synthetic resin.

#### References

- Saito M, Hirano M, Izumi T, Mori Y, Ito K, Saitoh Y, Terada N, Sato T, Sukegawa J. Cytoskeletal Protein 4.1G Is Essential for the Primary Ciliogenesis and Osteoblast Differentiation in Bone Formation. International Journal of Molecular Sciences. 2022; 23(4):2094. <https://doi.org/10.3390/ijms23042094>
- Kao CT, Chiu YC, Lee AK, Lin YH, Huang TH, Liu YC, Shie MY. The synergistic effects of Xu Duan combined Sr-contained calcium silicate/poly-ε-caprolactone scaffolds for the promotion of osteogenesis marker expression and the induction of bone regeneration in osteoporosis. Materials Science and Engineering: C. 2021 Feb;119:111629.
- Kim, J., Kim, S., Song, J.W. et al. Flexible endoscopic micro-optical coherence tomography for three-dimensional imaging of the arterial microstructure. Sci Rep 10, 9248 (2020). <https://doi.org/10.1038/s41598-020-65742-2>
- Mori, S., Sakakura, E., Tsunekawa, Y. et al. Self-organized formation of developing appendages from murine pluripotent stem cells. Nat Commun 10, 3802 (2019). <https://doi.org/10.1038/s41467-019-11702-y>
- Takizawa S, Yamamoto T, Honjo KI, Sato Y, Nakamura K, Yamamoto K, Adachi T, Uenishi T, Oseko F, Amemiya T, Yamamoto Y. Transplantation of dental pulp-derived cell sheets cultured on human amniotic membrane induced to differentiate into bone. Oral diseases. 2019 Mar 26.
- Kaneko T, Freeha K, Wu X, Mogi M, Uji S, Yokoi H, Suzuki T. Role of notochord cells and sclerotome-derived cells in vertebral column development in fugu, Takifugu rubripes: histological and gene expression analyses. Cell and tissue research. 2016 Oct 1;366(1):37-49.
- B.-C. Wu, S.-C. Huang, and S.-J. Ding, "Comparative Osteogenesis of Radiopaque Dicalcium Silicate Cement and White-Colored Mineral Trioxide Aggregate in a Rabbit Femur Model," Materials, vol. 6, no. 12, pp. 5675-5689, Dec. 2013.

8. L. Venkataraman and A. Ramamurthi, "Induced Elastic Matrix Deposition Within Three-Dimensional Collagen Scaffolds," *Tissue Engineering Part A*, vol. 17, no. 21-22, pp. 2879-2889, Jun. 2011.
9. Lavanya Venkataraman and Anand Ramamurthi. *Tissue Engineering Part A*. Nov 2011. 2879-2889. <http://doi.org/10.1089/ten.tea.2010.0749>
10. Sheenan, D.C., Hrapchak, B.B. *Theory and Practice of Histotechnology*, 2nd Edition. Battelle Press, Columbus, OH.
11. Clark, G., et al. *Staining Procedures*, 4th Edition, Williams & Wilkins Press, Baltimore, MD.
12. Symonds, D.A., Use of the Von Kossa stain in identifying occult calcifications in breast biopsies. *American Journal of Clinical Pathology*, 1990, July; 94(1) pages 44-48.



ScyTek Laboratories, Inc.  
205 South 600 West  
Logan, UT 84321  
435-755-9848  
U.S.A.



EC REP

Emergo Europe  
Prinsessegracht 20  
2514 AP The Hague, The Netherlands