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ab245884 Movat Pentachrome Stain Kit (Modified Russell-Movat)

For the histological visualization of collagen, elastin, muscle, mucin and fibrin in tissue sections.

View Movat Pentachrome Stain Kit (Modified Russell-Movat) datasheet:

www.abcam.com/ab245884

[use www.abcam.cn/ab245884 for China, or www.abcam.co.jp/ab245884 for Japan)

This product is for research use only and is not intended for diagnostic use.

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1. Overview

The Movat Pentachrome Stain Kit (Modified Russel-Movat, ab245884) is intended for use in histological demonstration of collagen, elastin, muscle, mucin and fibrin in tissue sections. This procedure is particularly useful when studying the heart, blood vessels and various vascular diseases.

Staining Interpretation:

Elastic Fibres:	Black to Blue/Black
Nuclei:	Blue/Black
Collagen:	Yellow to Red
Reticular Fibres:	Yellow
Mucin:	Bright Blue
Fibrin:	Bright Red
Muscle:	Red

Control Tissue:

Lung, Skin, Colon, Heart or any vascular tissue.

2. Materials Supplied and Storage

Store kit at Room temperature immediately on receipt and check below for storage for individual components. Kit can be stored for 1 year from receipt, if components have not been reconstituted.

Keep away from open flame and refer to the safety datasheet.

Item	Quantity		Storage temperature (before prep)	Storage temperature (after prep)
	250 mL	60 mL		
Hematoxylin Solution (5%)	250 mL	60 mL	RT	RT
Ferric Chloride Solution (10%)	125 mL	30 mL	RT	RT
Lugol's Iodine Solution	125 mL	30 mL	RT	RT
Ferric Chloride (2%) Differentiating Solution	250 mL	60 mL	RT	RT
Sodium Thiosulfate Solution (5%)	125 mL	30 mL	RT	RT
Acetic Acid Solution (1%)	125 mL	30 mL	RT	RT
Alcian Blue Solution, pH 2.5	125 mL	30 mL	RT	RT
Biebrich Scarlet – Acid Fuchsin Solution	125 mL	30 mL	RT	RT
Phosphotungstic Acid Solution (5%)	250 mL	60 mL	RT	RT
Yellow Stain Solution	125 mL	30 mL	RT	RT

3. General guidelines, precautions, and troubleshooting

Please observe safe laboratory practice and consult the safety datasheet.

For general guidelines, precautions, limitations on the use of our assay kits and general assay troubleshooting tips, particularly for first time users, please consult our guide:
www.abcam.com/assaykitguidelines

For typical data produced using the assay, please see the assay kit datasheet on our website.

4. Reagent Preperation

1.1 Prepare a working Elastic Stain Solution by mixing 30 ml of Hematoxylin (5%) Solution, 15 ml of Ferric Chloride Solution (10%) and 15 mL of Lugol's Iodine Solution.

ΔNote: Mixed solution may be used for 24 hours.

ΔNote: Lugol's Iodine Solution will cause staining of all kit vials and labels over time. This does not adversely affect the performance of this product and is merely cosmetic in nature.

ΔNote: Removal of mercury deposits is not required for tissues that have been fixed in mercury containing fixatives since it will be removed by the staining solution.

5. Assay Procedure

– Equilibrate all materials and prepared reagents to room temperature just prior to use and gently agitate.

1.2 Deparaffinize sections if necessary and hydrate to distilled water.

1.3 Stain tissue section with working Elastic Stain Solution for 20 minutes.

1.4 Rinse in running tap water until no excess stain remains on slide.

1.5 Dip slide in Ferric Chloride (2%) Differentiating Solution 15-20 times and rinse in tap water.

1.6 Check slides microscopically for proper differentiation. Repeat step 1.5 if required.

1.7 Rinse in 2 changes of distilled water.

1.8 Place slide in Sodium Thiosulfate Solution (5%) and incubate for 1 minute.

1.9 Rinse in tap water for 2 minutes followed by 2 changes in distilled water.

1.10 Place slide in Acetic Acid Solution (1%) and incubate for 2 minutes to equilibrate tissue prior to staining with Alcian Blue Solution, pH 2.5.

1.11 Without rinsing, place slide in Alcian Blue Solution, pH 2.5 and incubate for 25 minutes.

1.12 Rinse in tap water for 2 minutes followed by 2 changes in distilled water.

1.13 Place slide in Biebrich Scarlet – Acid Fuchsin Solution and incubate for 2 minutes.

1.14 Rinse slide in 2 changes of distilled water.

1.15 Place slide in Acetic Acid Solution (1%) for 5-10 seconds with agitation.

1.16 Rinse quickly in distilled water.

1.17 Differentiate slide in 2 changes of Phosphotungstic Acid Solution (5%) for 3-7 minutes each.

1.18 Check slides microscopically for proper differentiation. Collagen should be clear but elastic fibers should still be stained. Repeat step 1.17 if required.

1.19 Rinse slide briefly in distilled water.

1.20 Incubate slide in Acetic Acid Solution (1%) for 1 minute. This step is important for removing Phosphotungstic acid bound to the tissue.

1.21 Shake off excess Acetic Acid Solution (1%) and without rinsing apply Yellow Stain Solution and incubate for 15 minutes.

1.22 Rinse slide in 3 changes of absolute alcohol.

1.23 Clear, and mount in synthetic resin.

6. Troubleshooting

Elastin: If finer elastin fibers are expected but not seen, decrease number of dips or incubation in the Ferric Chloride solution (FCB) on step 1.5. We would suggest under-differentiating at first to locate all available elastin, and then increasing differentiation with subsequent slides if a greyish appearance is left on the tissue due to under-differentiation

Muscle and Collagen: The final stains of the procedure (Biebrich Scarlet – Acid Fuchsin Solution and Yellow Stain Solution) are a trichrome-type of staining that is quite sensitive to incubation time and temperature. The "differentiating solution" (Phosphotungstic Acid Solution (5%)) on step 1.17 is also sensitive to incubation time and temperature:

Collagen is colorless, not yellow: decrease incubation time of differentiating solution Phosphotungstic Acid Solution (5%) (PGC) on step 1.17. Increase incubation time in Yellow Stain solution (step 1.21). Ensure incubation step in acetic acid (step 1.20) is performed.

Collagen is red, not yellow: increase incubation time in differentiation solution Phosphotungstic Acid Solution (5%) (PGC) on step 1.17.

Muscle and background are too yellow: decrease incubation time in Yellow Stain solution (step 1.21)

Yellow Stain precipitation: If any solid is noticed in the Yellow Stain Solution this is to be expected and should not affect performance. The dye is present near saturated concentrations. If removing solid is preferred, gently warm and shake to re-dissolve solid or filter at no smaller than 3µm.

Notes

Technical Support

For all technical or commercial enquiries please go to:

www.abcam.com/contactus

www.abcam.cn/contactus (China)

www.abcam.co.jp/contactus (Japan)