IVD In Vitro Diagnostic Medical Device
For professional use only

MAYER'S HEMATOXYLIN Q PATH

According to standard ISO 18113-2 : 2009, Point 7 Requirements for instructions or use and consolidated Directive 98/79/EC

PRODUCT NAME

Cat. No	Description	Pack Size
00607126	Mayer's Hematoxylin Q path	5 L
10047005	Mayer's Hematoxylin Q path	6 x 450 mL
10047105	Mayer's Hematoxylin Q path	2,5 L

INTENDED PURPOSE

Mayer's haematoxylin solution is a nuclear contrast stain. It is also used for stains using haematoxylin and the standard (H&E) eosin. Before being used as a nuclear stain, haematoxylin must be oxidised in haematein and combined with a metal ion (mordant) such as aluminium or iron salts. The solution of Mayer's haematoxylin is classified as progressive. Progressive stains have a lower concentration of stain and selectively stain nuclear chromatin without staining the cytoplasmic structures. The haematoxylin stain is the blue stain obtained when tissues are cut.
This product may only be handled by professionals.

WARNING AND PRECAUTIONS

1. This solution is ready for use. Any change made is the user's responsibility.
2. The solution must be filtered every day in order to avoid any contamination by cells or tissues.
3. The solution must be replaced with a fresh solution as regularly as possible.
4. Staining a large number of slides may result in dilution of the solution. The recommendation is therefore to rotate the stain trays in order to avoid diluting the solution too much.
5. A control section must be tested every day before starting work in order to obtain the best possible results.
6. An adequate volume of solution must be used in the stain trays in order to make sure that the section is fully covered during staining.
7. Do not use this product after its expiry date.
8. Do not mix this stain with other haematoxylins or other stains.
9. This reagent must not be thrown out with household waste or enter the drainage system but must be disposed of in accordance with legal stipulations. Used solutions and those whose expiry date has gone by must be treated as special waste, in compliance with local regulations relating to waste disposal.

COMPOSITION

- ✓ Ethylene glycol (< 25%)
- ✓ Acetic acid (< 2%)
- ✓ Stains (< 0,6%)
- ✓ Oxidant agent (< 0,1 %)
- ✓ Aluminium sulphate (< 5%)

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STORAGE AND SHELF LIFE AFTER FIRST OPENING

This product must be stored vertically in its hermetically sealed envelope, at surrounding temperature, away from the light and in a suitably ventilated place at between +15°C and + 25°C.
Stability after the envelope is initially opened: store between +15°C and + 25°C, for a maximum of 12 months.
Use the stain solution up until the expiry date which is clearly indicated on the packaging.

ADDITIONAL SPECIAL EQUIPMENT

✓ Stain robot: follow the user manual for the apparatus and its software.

SPECIMENS

✓ Type of sample: tissues, histological section. No method of analysis guarantees that samples, whether histological or cytological, will not transmit infectious agents. Consequently, all samples of tissues or cells must be considered to be potentially infectious.
✓ All the samples must be clearly identified.
✓ Special sampling conditions: Fresh, correctly fixed samples. Use the correct instruments for taking samples and preparation.
✓ Pre-treatment: none.
✓ Storage conditions: assemble on slide/strip and store in a dry place away from the light.

MODE OF OPERATION

H&E STAINING PROTOCOL:

1. Place in a xylene bath for 5 min
2. Place in a xylene bath for 5 min
3. Place in alcohol at 100° for 5 min
4. Place in alcohol at 95° for 5 min
5. Place in alcohol at 70° for 5 min
6. Place in a bath of hydrochloric alcohol for 5 min
   (or bath of ammoniacal alcohol for 5 min)
7. Rinse in running water for 10 min
8. Place in the solution of Mayer's haematoxylin for 5 min
9. Rinse in running water for 10 seconds
10. Place in a bath of carbonated water for 5 min
11. Rinse in running water for 10 min
12. Place in the solution of Eosin for 5 min
13. Place in a bath of calcium chloride for 5 seconds
14. Place in a bath of calcium chloride for 2 min
15. Place in alcohol at 100° for 3 min
16. Place in alcohol at 100° for 3 min
17. Place in alcohol at 100° for 3 min
18. Place in xylene for 5 min
19. Come out in xylene
20. Assemble the slides using the Q Path Coverquick 2000 range.

HES STAINING PROTOCOL:

1. Place in xylene for 4 min
2. Place in xylene for 3 min
3. Place in alcohol at 100° for 2 min

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4. Place in alcohol at 100° for 2 min
5. Place in alcohol at 95° for 2 min
6. Place in alcohol at 70° for 3 min
7. Place in alcohol at 70° for 3 min
8. Rinse in running water for 2 min
9. Place in the solution of Mayer's haematoxylin for 5 min
10. Rinse in running water for 3 min
11. Place in a bath of hydrochloric alcohol for 5 sec
12. Rinse in running water for 2 min
13. Place in the solution of Eosin for 2 min
14. Rinse in running water for 20 sec
15. Place in alcohol at 95° for 2 min
16. Place in Saffron for 5 min
17. Place in alcohol at 100° for 1 min
18. Place in alcohol at 100° for 1 min
19. Place in xylene for 2 min
20. Come out in xylene
21. Assemble the slides using the Q Path Coverquick range.

Hydrochloric alcohol acts as a differentiator of Mayer's haematoxylin.
Results: The nuclear chromatin must be blue due to the Mayer's haematoxylin.
The cytoplasm is pink due to eosin.
The collagen is orange-yellow due to saffron.

The staining times may vary according to personal colour preferences.
The times indicated in these instructions are approximate. The times can be adjusted.
Some tap water resources are acidic and cannot be used in the blue stain part of this protocol. If the tap water is too acidic use a dilute alkaline solution.

METHODOLOGY

- PRINCIPLE OF THE METHOD

Haematoxylin is converted by a chemical reaction into haematein by using an oxidant agent. Haematein is the stain which, combined with a mordant (alum) stains the nuclei red. When the nuclei are washed with an alkaline solution, they take on a blue /purple colour.
Diagnoses can only be made by authorised and trained persons.

- METHOD CHARACTERISTICS AND PERFORMANCE LIMITATIONS

Q Path Mayer's Haematoxylin solution is used as part of a standard staining procedure which varies according to the users and can be adapted to provide the intensity and specificity required by the pathologist carrying out the diagnosis. This method is repetitive and reproducible within the limitations of the subjective nature of the procedure.
The over-staining or under-staining which are only noted at the end of the procedure mean that a section must be re-stained, ensuring compliance with the periods of time indicated in the protocol. As a result of the subjective nature of the staining, the exact duration of each stage is impossible to predict.
Solutions of stains used extensively will lose their staining power and the staining time must be extended or new solutions must be used.
The optimum quality of the stain will be validated by passing through a control slide before starting the daily staining.

REAGENT PREPARATION

Ready-for-use solution.

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LITERATURE REFERENCES

Mayer P,(1903) Notiz über Hämatein und Hämalaun. Zeitschrift für wissenschaftliche Mikroskopie und für mikroskopische technick 20,409.
Theory and Practice of histological Techniques, 2nd ed., Bancroft JD and Stevens A, Editors, Churchill Livingstone, New York (NY) , page 111, 1982.
Theory and Practice of histotechnology, 2nd ed., DC Sheehan, BB Hrapchack, editors, CV Mosby Co., St Louis, MO, 1980.
Laboratory Methods in Histotechnology of the Armed forces institute of pathology, 4th ed., Prophet EB, Mils B, Arrington JB and Sobin LH, Editors, American Registry of patholo, Washington DC 1992.

AFTER-SALES SERVICE

We pay the utmost attention in the quality of our products. However, if you are not satisfied, please contact our Customer Service (service.clients@fr.vwr.com) and indicate the reference and batch number of the product concerned.

This instruction for use was established on 30/07/2015 and cancels all previous instructions. The information is based on our knowledge and our experience this day. The attention of the users is drawn on the eventual risks when the product is used for another use for which is dedicated. It is not exempt the user to know and implement all the texts regulating his activity. He will take under his responsibility the precautions bound in the use that he does of the product.