Masson-Fontana Melanin Staining Solution

Cat #: A-CSH360

Size: 3×50mL, 3×100mL

Storage: 2~8°C, avoid light (3 months)

Product Composition

Component	3×50ml	3×50ml	Store at
Reagent (A): Fontana silver ammonia solution	50ml	100ml	2~8°C, and were protected from light
Fluquid A should be left for 1-2 hours or filtered before use			
Reagent (B): Hywave solution	50ml	100ml	10~30°C
Reagent (C): neutral red staining solution	50ml	100ml	10~30°C, and were protected from light

Product Description

Melanin is a non-hematogenous endogenous pigment that ranges in color from light brown to black and is produced by melanocytes. This pigment is typically found in the epidermis of the skin, eyes, substantia nigra of the brain, and hair follicles. Melanin has a notable physical property in that it is completely insoluble in most organic solvents, most likely due to its tight binding with proteins within the melanosome. Another physical property of melanin is its susceptibility to bleaching by strong oxidizing agents, although this process is slow. In pathological conditions, this pigment can also be present in benign melanocytic nevi and malignant melanomas. In routine H&E staining, melanin appears as brownish-yellow or dark brown rather than black. Several methods can be used to identify melanin and melanin-producing cells, such as reduction methods like the Masson-Fontana silver technique and the Schmorl ferric iron-potassium ferrocyanide reduction experiment, enzyme methods (e.g., the dopa reaction), fluorescence methods, and immunohistochemistry.

The Masson-Fontana melanin staining utilizes the property of melanin to reduce silver ammonium solution to metallic

silver, known as the argentaffin reaction principle, to visualize melanin, which appears black after staining. This method is a commonly used special staining technique for melanin and yields better results compared to other staining methods

Usage

1. Fixation: 10% neutral formalin is the preferred fixative, and the use of chromate and mercuric oxide fixatives should be avoided.

2. Sectioning: Dewax the paraffin sections to water.

3. Place the experimental and control sections in distilled water.

4. Immerse the sections in Fontana's silver ammonia solution and incubate at room temperature in the dark for 12-18 hours.

5. Rinse thoroughly with distilled water (5-6 times).

6. Treat the sections with potassium pyroantimonate solution for 5 minutes.

7. Rinse with tap water for 5 minutes.

8. (Optional) Stain lightly with neutral red staining solution for 5 minutes.

9. Rinse with distilled water.

10. Dehydrate with 95% ethanol and absolute ethanol.

11. Clear with xylene, mount with a neutral mounting medium.

Staining Results

Melanin, and agrophilic cell granules	black
nucleus	red

Notes

1. Pay attention to the staining time of Fontana's silver ammonia solution under the microscope, ensuring that the melanin particles appear black. If the staining time is too long, lipofuscin, bilirubin, and orange-red blood components may also appear black, making it difficult to distinguish melanin.

2. The vessels in contact with Fontana's silver ammonia solution should be thoroughly cleaned to prevent chemical reactions with residual contaminants.

3. Fragile materials may need to be coated with a layer of collodion to prevent the sections from lifting off the glass slide.

4. For your safety and health, please wear laboratory attire and disposable gloves while performing the procedure.

Disclaimer

The reagent is only used in the field of scientific research, not suitable for clinical diagnosis or other purposes.