Mayer'S Hematoxylin Staining Solution

Cat #: A-CSH257

Size: 100mL, 500mL

Storage: 10-30 °C, Avoid exposure to light (1 year)

Product Description

Hematoxylin and Eosin (HE) staining, consisting of hematoxylin and eosin dyes, is the most commonly used staining method in pathology and histology. Hematoxylin, an alkaline natural dye, stains cell nuclei. The main component of chromatin within the cell nucleus is DNA. In the double helix structure of DNA, the phosphate groups on the two nucleotide chains are oriented outward, resulting in a negatively charged outer surface of the DNA double helix. This acidic nature facilitates the binding of positively charged hematoxylin basic dye through ionic or hydrogen bonding, resulting in staining.

Mayer's hematoxylin staining solution is a type of alum hematoxylin solution. It contains a lower concentration of hematoxylin and does not form an oxidation film. It provides clear staining of cell nuclei without staining the cytoplasm and fiber components. It is a progressive staining method, eliminating the need for differentiation with hydrochloric acid ethanol. The staining time is approximately 3 to 5 minutes. Mayer's hematoxylin staining solution is commonly used for counterstaining cell nuclei in special stains such as glycogen staining, enzyme histochemistry, and immunohistochemistry. It is particularly suitable for restaining cell nuclei after undergoing special staining procedures that cannot be subjected to acid treatment. In such cases, the staining time is shorter (usually 5 to 10 minutes), and subsequent bluing can be performed without the need for differentiation. In special staining, Mayer's hematoxylin staining solution can be combined with Azure B to prevent fading of the cell nuclei staining caused by subsequent acidic dyes.

Usage

1. Stain the tissues or cells appropriately according to the specific requirements of the experiment.
2. Differentiation with hydrochloric acid ethanol is not required, and the staining time is generally 3 to 5 minutes. For

regressive staining, the staining time may be extended to 10 to 20 minutes, while for progressive staining, it is typically 3 to 5 minutes, usually kept within 10 minutes.

Staining Results

Cell Nucleus	Blue

Notes

1. The deparaffinization of sections should be as thorough as possible. The series of ethanol solutions should be regularly replaced with fresh ones.
2. The duration of differentiation with hydrochloric acid ethanol should be determined based on the thickness of the sections, tissue type, and the condition of the solutions. Additionally, the rinsing time with tap water after differentiation should be sufficient to thoroughly wash away the acid.
3. The staining time for frozen sections should be kept as short as possible.
4. Blueing solution is commonly prepared using 0.2-1% ammonia water or Scott's tap water substitute, or a 0.1-1% lithium carbonate solution.
5. For your safety and health, please wear a lab coat 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.