Wright Staining Kit

Cat #: A-CSH290

Size: 2×100mL, 2×500mL

Storage: 10-30 °C, Avoid exposure to light (2 years)

Product Description

Component	2×100ml	2×500ml	Store at
Reagent (A): Wright's Stain	100ml	500ml	10-30°C, Avoid exposure to light
Reagent (B): Phosphate Buffer Solution	100ml	500ml	10-30°C

Wright's stain is a composite dye composed of the acidic dye Eosin and the basic dye Methylene Blue. It exhibits a distinct staining effect on cytoplasm. Different cellular components have different chemical properties and affinities for various dyes. For example, hemoglobin and acidophilic granules are alkaline proteins that bind with the acidic dye Eosin, resulting in a pink staining, referred to as acidophilic substances. Nuclear proteins, lymphocytes, and basophilic granules have an acidic cytoplasm that binds with the basic dye, resulting in a purple-blue or blue staining, referred to as basophilic substances. Neutral granules, being at an isoelectric state, can bind with both Eosin and Methylene Blue, resulting in a pale purplish-red staining, referred to as neutrophilic substances. Immature red blood cells, reticulocytes, and nucleoli contain a higher amount of acidic substances, resulting in a dense blue staining. Intermediate-stage red blood cells contain both acidic and basic substances, resulting in a red-blue or gray-red staining. Fully mature red blood cells lose their acidic substances and stain pink. Wright's stain is a clear blue liquid with a distinctive odor of methanol. It mainly consists of Methylene Blue, Eosin, and methanol. Methanol serves to dissolve Methylene Blue and Eosin and also fix the cellular morphology.

Wright's stain, formulated by grinding Wright's dye as the main ingredient, can provide clear cellular staining effects. The characteristics of this staining solution are as follows: it is composed of Wright's stain and phosphate buffer solution, ready for direct use without any preparation process. A small amount of neutral glycerol is added to the staining solution to prevent the evaporation or oxidation of methanol and to enhance the clarity of blood cell staining.

It is commonly used for blood and cell smears, bone marrow cell smears, and bacterial staining. The cytoplasm appears red, the cell nucleus and bacteria appear blue, and acidophilic granules appear orange-red.

Usage

1. Prepare blood smears, bone marrow smears, or bacterial smears using standard methods and allow the smears to air dry.
2. Place the blood smears or bone marrow smears on a staining rack.
3. Add an appropriate amount of Wright's stain to cover the smears and stain at room temperature for 1-2 minutes.
4. Add an equal amount of phosphate buffer solution to the smears and gently mix the slide or use other methods to ensure thorough mixing of the phosphate buffer solution with the Wright's stain. Allow it to sit at room temperature for 3-10 minutes.
5. Gently rinse the slide with tap water or distilled water from one end. (Note: The slide can also be rinsed with phosphate buffer solution for approximately 30 seconds.)
6. Allow the slide to dry.
7. Examine the slide using a low-power microscope followed by an oil immersion objective.

Staining Results

Bacteria, cell nuclei	Blue
Acidophilic granules	Pink or orange-red
Lymphocytes, basophilic granules in cytoplasm	Purple-blue or blue
Fully mature red blood cells	Pink

Notes

1. Blood smears or bone marrow smears should be evenly spread and of proper thickness to ensure optimal staining results.

2. During the staining process, do not remove the staining solution first or rinse the smears forcefully. Do not discard the staining solution first to prevent dye deposition on the smears.

3. The staining solution can be reused, but repeated reuse should be avoided. If there are precipitates, filter them before reuse.

4. If the staining is too intense, slight decolorization can be achieved using methanol or alcohol, but it is preferable not to restain.

5. If the staining is too deep or too light, adjust the staining time or the concentration of the working solution.

6. The pH value has a certain impact on staining. The glass slides should be clean and free from acid or alkaline contamination to ensure optimal staining results.

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

Disclaimer

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