Scharlach Red S Staining Solution (0.1%, pH 8.3)

Cat #: A-CSH341

Size: 100mL

Storage: Room temperature, avoid light (6 months)

Product Composition

Component	Size	Store at
Alizarin Red S stain solution (0.1%, pH8.3)	100ml	10~30°C, and were protected from light

Product Description

Calcium exists in large amounts in the human body and forms the skeletal framework that supports the body. It also plays important roles in secretion, transportation, muscle contraction, and nerve conduction. Calcium exists in two forms in the body: ionized calcium, which circulates in the bloodstream (known as blood calcium), and bound calcium, which combines with proteins, carbonates, or phosphates and deposits in tissues.

Alizarin Red S is a derivative of anthraquinone, specifically the sodium salt of alizarin sulfonic acid. It can chelate with calcium salts in calcium carbonate or calcium phosphate to form an orange-red complex. Alizarin Red S staining often yields more reliable results for staining small amounts of deposits. It is commonly used in combination with Alcian Green or Mayer's hematoxylin stain, forming an orange-red precipitate, suitable for staining tissues with small amounts of calcium salts. This reagent is for research purposes only and not intended for clinical diagnosis or treatment.

Usage

1. Fix the tissue in 10% neutral formalin or ethanol and perform routine dehydration and embedding.

2. Section the tissue to 95% ethanol.

3. Place the slides vertically and let them air dry completely.

4. Immerse the sections in a staining dish containing Alizarin Red S staining solution for 5-20 minutes (see note 1).

5. Rinse quickly with distilled water.

6. (Optional) Restain with a restaining solution, rinse with distilled water three times.

7. Perform routine dehydration, clearing, and mount with neutral mounting medium.

Staining Results

Calcium sediment	orange red
background	Depending on the color of the counterdye solution

Notes

1. The staining time of Alizarin Red S staining solution should be determined based on the content of calcium salts. It should be observed under a microscope, and the sections should be removed and rinsed with water when the calcium salts exhibit a deep orange-red color. If the staining time is too long, diffusion may occur. Generally, 1-2 minutes is sufficient.

2. Calcium deposits appear birefringent after staining with Alizarin Red S staining solution.

3. When using Alcian Green as the restaining solution, the background appears green. When using Mayer's hematoxylin, the cell nuclei appear blue.

4. This method is particularly useful for identifying and detecting small amounts of calcium, such as abnormal calcification in the kidneys (excessive urinary calcium).

5. For your safety and health, please wear lab attire and disposable gloves when performing the procedure.

Disclaimer

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