Cartilage Staining Kit (Fuchsin O)

Cat #: A-CSH385

Size: 2×50mL, 2×100mL

Storage: Room temperature, avoid light (12 months)

Product Composition

Component	2×50mL	2×100mL	Store at
Reagent (A): Penta O staining solution	50ml	100ml	10-30°C, and were protected from light
Reagent (B): Acified differentiation solution	50ml	100ml	10~30°C

Product Description

Cartilage tissue is composed of chondrocytes and extracellular matrix, and the cartilage along with its surrounding perichondrium forms the cartilage. Cartilage can be classified into hyaline cartilage, elastic cartilage, and fibrocartilage based on the different components of the matrix. There are various staining methods for cartilage, such as Toluidine Blue method, Alcian Blue method, and Safranin O method.

The staining principle of Safranin O staining solution (Safranin O method) is that alkalineophilic cartilage binds with the basic dye Safranin O to appear red. Safranin O is a cationic dye that binds to anionic groups (such as chondroitin sulfate or keratan sulfate) in polysaccharides. The staining intensity of Safranin O is approximately proportional to the concentration of anions, indirectly reflecting the content and distribution of protein polysaccharides in the matrix. When cartilage is damaged, the release of proteoglycans from the cartilage leads to an uneven distribution of matrix components, resulting in weak or no staining with Safranin O. Quantitative analysis of the cartilage matrix stained with Safranin O can be performed using image analysis software. Proper differentiation is crucial for Safranin O staining; excessive differentiation can result in poor staining, while insufficient differentiation can lead to excessive staining.

Usage

1. Specimen Preparation: Fixation with 10% formalin, decalcification, and paraffin embedding.

2. Dewaxing: Dewax the sections using routine methods until water.

3. Rinse with distilled water for 1 minute.

4. Immerse the sections in Safranin O staining solution for 1-2 minutes, then rinse off excess staining solution with distilled water.

5. Differentiate with acid differentiation solution, followed by rinsing with distilled water.

6. Dehydrate with 95% ethanol and absolute ethanol.

7. Clear with xylene, and mount with neutral resin.

Staining Results

mesochondrium	red

Notes

1. Do not over-stain the sections in Safranin O staining solution, as it may result in difficulty in differentiating the deep red background.

2. After Safranin O staining, avoid dehydration in low-concentration ethanol, as it may cause fading.

3. Do not prolong the dehydration time in 95% ethanol.

Disclaimer

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