

Gus staining

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Method Article

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Abstract

This experiment aims to establish a Gus staining method for detecting the distribution and activity of β -glucuronidase (GUS) in tissues.

Procedure

Preparation of reagents

- (1) GUS staining solution: Take an appropriate amount of DMSO, Na₂CO₃, and water, mix thoroughly until completely dissolved, add GUS substrate, then add potassium ferrocyanide, and finally add Triton X-100.
- (2) Buffer: Prepare an appropriate amount of MES, Na₂CO₃, and water, mix thoroughly until completely dissolved, and adjust the pH to 5.0.

Tissue processing

- (1) Fix the tissue in 10% formaldehyde and store it at 4°C.
- (2) Dehydrate the fixed tissue and immerse it in a clearing agent for transparency.
- (3) Embed the transparent tissue and make sections.

GUS staining

- (1) Place the sections in the GUS staining solution and incubate at 37°C for 1-2 hours.
- (2) Wash with buffer to remove unbound dyes and substrates.
- (3) Place the sections in the substrate solution and incubate at 37°C for 1-2 hours.
- (4) Wash with buffer to remove unbound substrate.

Result observation

- (1) Observe the staining results under a microscope and record the distribution and activity of GUS.
- (2) Take photos or draw images as needed to record the experimental results.

Experimental Summary:

This experiment established a reliable GUS staining method that can be used to detect the distribution and activity of β -glucuronidase in tissues. It is important to follow proper experimental procedures to ensure the accuracy and reliability of the staining results.