

Hoechst 33342 Staining Solution

O1501802

Store at -20°C in the dark and avoid repeated freezing and thawing.

Introduction

Hoechst 33342 solution is a reagent used for fluorescent staining of DNA and cell nuclei in living cells or fixed cells. Hoechst 33342 is a bis-benzimidazole dye with high specificity for double-stranded DNA (it is more inclined to bind to A-T base pairs). This dye is very helpful for marking double-stranded DNA, thereby enabling visualization of the cell nucleus. Hoechst 33342 can be excited by a UV light source at approximately 355 nm. When combined with DNA, it emits blue fluorescence at the emission peak of 461 nm.

Hoechst 33342 is commonly used for cell apoptosis detection. After staining, it can be observed using a fluorescence microscope or detected by a flow cytometer. It can also be used for ordinary cell nucleus staining or routine DNA staining.

The concentration of this product is 1.0 mg/mL. When used for cell nucleus staining, the recommended working concentration is 1-10 µg/mL.

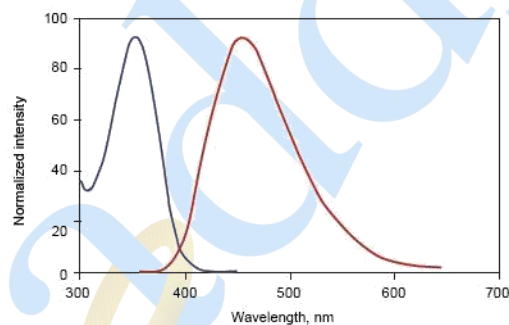


Figure 1. Excitation and emission spectra of Hoechst 33342 and DNA complex

Instruction for use

1. For fixed cells or tissues
 - a. The cells were inoculated onto the culture plates/flasks and cultured until they reached the logarithmic growth phase. If cell fixation was required, the cells were fixed with 4% paraformaldehyde at room temperature for 10-15 minutes, then washed twice with PBS, each time for 5 minutes;
 - b. Add the Hoechst 33342 working solution and incubate at 37°C in the dark for 10-30 minutes;

- c. Remove the Hoechst 33342 staining solution and wash the cells twice with PBS for 5 minutes each time.
2. For living cells or tissues
 - a. Collect the cells, centrifuge at 1000 rpm for 5 minutes, and discard the supernatant;
 - b. Resuspend the cells in PBS, add the Hoechst 33342 working solution, and incubate at room temperature in the dark for 15-20 minutes;
 - c. Centrifuge at 1000 rpm for 5 minutes, discard the staining solution, wash twice with PBS for 5 minutes each time; then resuspend the cells in PBS;
 - d. Observe directly under a fluorescence microscope or under a fluorescence microscope after mounting. When cells undergo apoptosis, the nuclei of apoptotic cells will show dense and compact staining, or fragmented and dense staining.

Matters needing attention

1. Depending on the application of Hoechst 33342 staining solution, it is recommended to perform a titration before use to determine the optimal working concentration.
2. Fluorescent dyes all have the problem of quenching. It is recommended to complete the detection as soon as possible after staining. Live cells or tissues should be observed immediately after staining.
3. This product is only for professional scientific research use. It shall not be used for clinical diagnosis or treatment, nor for food or medicine. It shall not be stored in ordinary residences.
4. For your safety and health, please wear laboratory coats and disposable gloves during operation.