Hoechst 33258

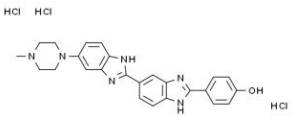
Cat: IH0060
Storage: Powder: -20℃, 2 years; Insolvent: -20℃, 6 months; -80℃, 1 year (protect from light)

Introduction

Hoechst 33258 is a blue fluorescent dye that can penetrate the cell membrane. It releases strong blue fluorescence after embedding double-stranded DNA, and has low toxicity to cells.Hoechst 33258 is often used for apoptosis detection. After staining, it can be observed by fluorescence microscope or detected by flow cytometry. It can also be used for ordinary nuclear staining or conventional DNA staining.Hoechst 33258 staining is often used to detect apoptosis, which is observed by fluorescence microscopy or flow cytometry after staining. Hoechst 33258 is also commonly used for ordinary nuclear staining, or conventional DNA staining.The maximum excitation wavelength of Hoechst 33258 was 346 nm, and the maximum emission wavelength was 460 nm. After Hoechst 33258 binds to double-stranded DNA, the maximum excitation wavelength is 352 nm and the maximum emission wavelength is 461 nm.

Parameter

CAS: 23491-45-4
Molecular Formula: $C_{25}H_{27}Cl_3N_6O$
Molecular Weight: 533.88
Appearance: Light yellow to green Solid
Solubility: Soluble in Water ≥10mg/mL



Protocols (*only for reference*)

Preparation of storage solution

A stock solution of 1 mg/mL was prepared with DMSO For example, 1 mg Hoechst 33258 powder was dissolved in 1 mL DMSO.
Note: Unused storage solution is recommended to be stored at -20℃ to avoid repeated freezing and thawing.

Preparation of working fluid

The storage solution was diluted with appropriate buffer (such as serum-free medium or PBS, etc.) to prepare a Hoechst working solution of 10 μg/mL.
Note :

a. The final concentration of the working solution is recommended to be optimized according to different cell lines and experimental systems.
b. When it is found that it is difficult to dissolve, appropriate ultrasonic treatment can be used to promote dissolution.
c. Please adjust the concentration of the working fluid according to the actual situation, and use it now.

Coloring

For fixed cells or tissues

1. For cell or tissue samples, after fixation, appropriate washing to remove the fixative. Subsequently, if immunofluorescence staining is required, immunofluorescence staining is performed first, and then Hoechst 33258 staining is performed according to the subsequent steps. If no other staining is required, subsequent Hoechst 33258 staining is performed directly.

2. For adherent cells or tissue sections, a small amount of Hoechst 33258 working solution was added to cover the sample. For suspension cells, at least 3 times the volume of the working solution of the sample to be stained was added and mixed. Store at room temperature for 3-5 minutes.
3. Hoechst 33258 staining solution was removed and washed 2-3 times with TBST, PBS or normal saline for 3-5 minutes each time.
4. Observe directly under a fluorescence microscope or under a fluorescence microscope after sealing. When apoptosis occurs, the nucleus of apoptotic cells will be seen to be densely stained, or fragmented and densely stained.

For living cells or tissues

1. Adding an appropriate amount of Hoechst 33258 working fluid, the sample to be dyed must be fully covered. Usually, 1mL working fluid is added to one hole of the six-hole plate, and 100 μL working fluid is added to one hole of the 96-hole plate.
2. Culture for 20-30 minutes at a temperature suitable for cell culture. The staining solution was discarded and washed with PBS or culture medium for 2-3 times to perform fluorescence detection.

Note

1. Fluorescent dyes all have quenching problems, please try to avoid light to slow down the fluorescence quenching.
2. For your safety and health, please wear experimental clothes and wear disposable gloves.
3. This product is for scientific research only. Do not use in medicine, clinical diagnosis or treatment, food and cosmetics. Do not store in ordinary residential areas.

Related Literature

[1]. Hong Chen, Hui Zhang, Yanhong Dai, et al. Magnetic Hydrogel Microrobots Delivery System for Deafness Prevention. ADVANCED FUNCTIONAL MATERIALS. Volume33, Issue35. August 29, 2023. 2303011.（IF：19.0）

[2]. Chen M, Li M, Ren X, Zhou F, Li Y, Tan L, Luo Z, Cai K, Hu Y. DNAzyme Nanoconstruct-Integrated Autonomously-Adaptive Coatings Enhance Titanium-Implant Osteointegration by Cooperative Angiogenesis and Vessel Remodeling. ACS Nano. 2023 Aug 22;17(16):15942-15961. doi: 10.1021/acsnano.3c04049. Epub 2023 Aug 11. PMID: 37566558.（IF：17.1）

Note: For more literature, please visit the Solarbio official website.

Related Products

IH0070 Hoechst 33342
IH1750 Hoechst 34580
IH1760 Hoechst 34580 tetrahydrochloride
ID2250 DAPI dihydrochloride
IP5030 Propidium iodide