Product Information

DAPI

Catalog Number: D4054, D4080

Product Size**:** 10mg (D4054), 10mL (D4080)

Application Scope: Cell tracing, tracking, cellular imaging

Parameters

Appearance: Yellow solid (D4054)

Ex/Em (with DNA): 360/460 nm

CAS No.: 28718-90-3

Molecular Formula: $C_{16}H_{17}Cl_2N_5$

Molecular Weight: 350.25

Molecular Structure:

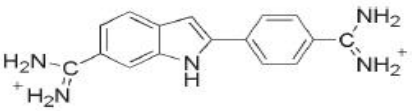

Figure 1. DAPI (4',6-Diamidino-2-Phenylindole).

Storage

Store at -20°C and protect from light. When stored as directed, product is stable for at least 12 months.

Description

DAPI is a blue DNA dye that is widely used as a nuclear counterstain for fluorescence microscopy, chromosome staining, and flow cytometry. The dye binds to the minor groove of dsDNA with approximately 20-fold fluorescence enhancement. DAPI has a high level of photobleaching tolerance and can be used to detect yeast mitochondrial DNA, chloroplast DNA, viral DNA, microplasm DNA, and chromosomal DNA.

At lower concentrations (~1 ug/mL), DAPI is impermeant to live cells, but useful as a nuclear counterstain in fixed cells or tissue sections. At higher concentrations (~10 ug/mL), DAPI can be used to stain live cells.

Protocol

For cell or tissue samples, after fixation, wash them to remove fixative. If immunofluorescence staining is to be performed, DAPI staining is performed after the staining is completed. If no other staining is required, the subsequent DAPI staining is performed directly. For D4080 ready-to-use dyes, you can directly perform the third staining step

1. Stock solution: The solid dye may be dissolved in water to make concentrated stock solutions up to 1 mg/mL.

Note: DAPI cannot be directly dissolved in a buffer solution such as PBS, it needs to be dissolved in water first.

2. Preparation of working solution: Dilute the storage solution with PBS to prepare a working solution with a concentration of 5 μg/mL.

3. Remove medium from the cells and add an appropriate amount of DAPI working solution.

4. Incubate cells at room temperature or 37°C for 10-20 minutes.

5. Remove DAPI working solution and wash with PBS or saline for 2-3 times, each time for 3-5 minutes.

Note: The cleaning step is optional but not necessary. It does not affect the staining after cleaning.

6. Image the samples.

Notes

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1. DAPI dye is more sensitive to staining mammalian cells than staining bacteria. It is recommended to stain with a final concentration of 10 μg / mL in PBS or 150 mM NaCl for 30 min at room temperature to stain bacteria. Dead cells are usually stained more brightly than live cells.

2. For nuclear staining, the recommended working concentration of DAPI is 0.5-10 μg / mL.

3. If you need to adjust the use concentration, please choose D4054-10 mg.

4. There are quenching problems with fluorescent dyes. Please avoid light to slow down the fluorescence quenching.

5. For your safety and health, please wear lab coats and disposable gloves.

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