FT-JQ7470

DAPI solution, enhanced photostability

Product Information

Name :	**DAPI,** 4',6-diamidino-2-phenylindole, dihydrochloride salt
Catalog Number :	FP-JQ7470, 2 ml (5mM) formulated for enhanced photostability
Structure :	$C_{16}H_{17}Cl_2N_5$
Molecular Weight :	350.25
Solubility:	Soluble in water
Absorption / Emission :	$\lambda_{exc}\backslash\lambda_{em}$ (no DNA, water) = 344 nm/ 450 nm $\lambda_{exc}\backslash\lambda_{em}$ (DNA-bound) = 358 nm/ 461 nm.
Extinction Coefficient :	ε (no DNA, water)= 21 000 $M^{-1}cm^{-1}$

Storage: –20°C (Expiration date is 6 months from the date of receipt) Protect from light

Introduction

DAPI (4',6-diamidino-2-phenylindole) is a popular blue counterstain fluorescent DNA probe for microscopy imaging.

- Since DAPI passes through an intact cell membrane, it can be used to stain live cells besides fixed cells.
- DAPI also stains chromosomes, yeast, phytoplasmas, dsDNA and RNA. DAPI binds to minor grooves of DNA (preferentially dsDNA) with a selectivity for AT clusters. Fluorescence ($\lambda_{abs.}$:$\lambda_{em.}$: 358/461 nm) is increased 15-20 folds. A RNA staining is also reported with λ emission shifted to ca 500 nm and a low quantum yield of 20%.
- DAPI is mutagenic, and should thus be handled with suitable precautions (wear gloves). Disposal should respect local regulations, i.e; aqueous solution may be filtered through activated charcoal.

Directions for use

Protocol for Staining Cells

Use the fixation protocol appropriate for your sample. DAPI staining is normally performed after all other staining.

The following procedure can be adapted for most cell types. Growth medium, cell density, the presence of other cell types and other factors may influence staining. Residual detergent on glassware may also affect real or apparent staining of many organisms, causing brightly stained material to appear in solutions with or without cells present.

Pellet cells by centrifugation and resuspend in buffered salt solutions or media, with optimal dye binding at pH 7.4. Adherent cells in culture may be stained *in situ* on cover slips or in the cell culture wells.
Add DAPI stain using the concentrations between 0.5 to 5 ⌈M for 15 to 60 minutes as a guide. In initial experiments, it may be best to try several dye concentrations over the entire suggested range to determine the concentration that yields optimal staining.

Related products

- Hoechst 33342, 20 mM, FP-BB1340
- Hoechst 33258, 20 mM, FP-BB1330
- Fluoro-Gel mounting medium, FP-483331
- Fluoroshield / FluoroGel (FP-AL2562), with DAPI (FP-DT094A), with PI (FP-DT095A), with DAPI & DABCO (FP-WYM680) (designed for the permanent mounting of hydrated tissues, which may be damaged with organic solvents)
- Organo mounting medium Limonene-Mount FP-DT096A (designed for DAB staining, AP chromogens SuperFast Red)
- Aqueous mounting medium: ImmunoHistoMounting medium Clear-Mount FP-BT0781
- In-situ-Mount medium #DT0975 (for AP stained tissue sections)
- Goat anti-Mouse IgG, FluoProbes® 547H, FP-SB4000
- Goat anti-Rabbit IgG, FluoProbes® 647H, FP-SC4000

References

- **Bertho N**. *et al*., Efficient migration of dendritic cells toward lymph node chemokines and induction of TH1 responses require maturation stimulus and apoptotic cell interaction, *Blood*, Vol. 106, No. 5, pp. 1734-1741 (2005) Article
- **Brent J.F**, *et al*., « Functional Nucleotide Receptor Expression and Sarcoplasmic Reticulum Morphology in Dedifferentiated Porcine Coronary mooth Muscle Cells » , *J Vasc Res*, **8**, 432 (2001) Article
- **Brent J.F**, *et al*., « Enhanced Endothelin$_A$ Receptor-Mediated Calcium Mobilization and Contraction in organ Cultured Porcine Coronary Arteries », *The Journal of pharmacology and experimental therapeutics*, **295**, Issue 2, 484 (2000) Article
- **Kapuscinski J**., *et al*., « DAPI: A DNA-specific fluorescent probe », *Biotechnic Histochem.* **70**, 220 (1995) Abstract
- **Masson J.** *et al*., Mice Lacking Brain/Kidney Phosphate-Activated Glutaminase Have Impaired Glutamatergic Synaptic Transmission, Altered Breathing, Disorganized Goal-Directed Behavior and Die Shortly after Birth, *J. Neurosci.*, 26: 4660 - 4671 (2006) Article
- **Peneau S**. *et al*., First Evidence of Division and Accumulation of Viable but Nonculturable *Pseudomonas fluorescens* Cells on Surfaces Subjected to Conditions Encountered at Meat Processing Premises, *Applied and Environmental Microbiology*, p. 2839-2846, Vol. 73, No. 9 (2007) Article

Ordering information

Catalog size quantities and prices may be found at http://www.fluoprobes.com

For any information, please ask : FluoProbes® / Interchim; Hotline : +33(0)4 70 03 73 06