SZABO SCANDIC

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Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

Product Information

DAPI

Catalog number	Product	MW	Size
40009	DAPI, dilactate	457.49	10 mg
40011	DAPI, dihydrochloride	350.25	10 mg
40043	DAPI in H_2O,10 mg/mL	457.49	1 mL

Storage and Handling

Store DAPI (solid form) desiccated at 4°C, protected from light. Store DAPI in H_2O at 4°C, protected from light. Product is stable for at least one year from date of receipt when stored as recommended.

Molecular Information

$C_{22}H_{27}N_5O_6$ (DAPI, dilactate)

$C_{16}H_{17}Cl_2N_5$ (DAPI, dihydrochloride)

CAS number: 28718-90-3
Color and form: Yellow solid (40009, 40011); yellow liquid (40043)
Solubility: Soluble in water
Absorption/Emission: 358/461 nm (with DNA)

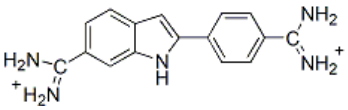

Figure 1. DAPI (4',6-Diamidino-2-Phenylindole).

Product 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, with higher affinity for A-T rich regions. Because of the potential toxicity of DAPI, we offer DAPI as a ready-to-use solution in water as a safer alternative to weighing out the solid form. We also offer DAPI dilactate solid, which is more water soluble than the dihydrochloride salt of the dye.

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.

References

1) Biochemistry 31, 3103 (1992); 2) Biochem Biophys Res Commun 170, 270 (1990); 3) J. Histochem Cytochem 38, 1323 (1990); 4) Methods Enzyme 168, 741 (1989); 5) Biochemistry 26, 4545 (1987); Biotechnic Histochem 70, 220 (1995).

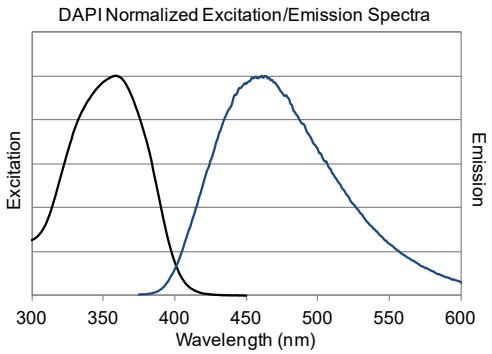

Figure 2. Normalized excitation and emission spectra of DAPI with DNA.

Staining Protocols

Live cell staining

Below we provide two protocols for staining live cells with DAPI. Staining by medium exchange results in uniform exposure of cells to probe. However, for some cell types, morphology or viability may be affected by medium exchange. In addition, floating dead cells may be lost during medium removal, and suspension cells must be collected by centrifugation to exchange the medium. Direct addition of 10X probe is a convenient staining method that doesn't require medium exchange, but care must be taken to mix immediately yet gently to avoid high transient probe concentration or disruption of cells by pipetting. Note that we do not recommend adding highly concentrated dye directly to cells in culture, as this will result in local areas of high dye exposure.

Live cell staining by medium exchange

1. Dilute DAPI to 10 ug/mL in fresh, complete culture medium. DAPI can be combined with other fluorescent probes.
2. Remove medium from the cells and replace with medium containing dye.
3. Incubate cells at room temperature or 37°C for 5-15 minutes, then image. Note: Washing is not necessary for specific staining, but nuclear staining is stable after washing.

Live cell staining by direct addition of 10X probe

1. Prepare 10X dye solution by diluting DAPI to 100 ug/mL in fresh, complete culture medium. DAPI can be combined with other fluorescent probes, which should be diluted to 10 times the final desired concentration.
2. Without removing the medium from the cells, add 1/10 volume of 10X dye directly to the well.
3. Immediate mix thoroughly by gently pipetting the medium up and down. For larger well sizes (e.g., 24-well to 6-well plates), the plate can be gently swirled to mix.
4. Incubate cells at room temperature or 37°C for 5-15 minutes, then image. Note: Washing is not necessary for specific staining, but nuclear staining is stable after washing.

Staining of fixed cells or tissue sections

1. Dilute DAPI to 1 ug/mL in PBS. DAPI can be included together with antibodies or other probes, and can be diluted in buffers with detergent or blocking agents if convenient.
2. Add the PBS with dye to cells or tissue sections and incubate at room temperature for at least 5 minutes.
3. Image the samples; washing is optional but not required.
   Note: Samples can be stored at 4°C after staining and before imaging.
   Note: DAPI can be included directly in antifade mounting medium for one-step mounting and staining. When using DAPI in mounting medium, longer incubation times may be required for DAPI to completely penetrate the cell nuclei.

Staining bacteria or yeast

DAPI stains bacteria more dimly than mammalian cells. Live or killed bacteria can be stained with 10 ug/mL DAPI in PBS or 150 mM NaCl for 30 minutes at room temperature. DAPI tends to stain dead cells more brightly than live cells.

In *S. cerevisiae*, DAPI preferentially stains dead yeast with nuclear and cytoplasmic staining when used at 10 ug/mL in PBS; in live yeast DAPI shows dim mitochondrial staining.

Related Products

Catalog number	Product
23001	EverBrite™ Mounting Medium
23002	EverBrite™ Mounting Medium with DAPI
23003	EverBrite™ Hardset Mounting Medium
23004	EverBrite™ Hardset Mounting Medium with DAPI
23008	Drop-n-Stain EverBrite™ Mounting Medium
23009	Drop-n-Stain EverBrite™ Mounting Medium with DAPI
40044	Hoechst 33258, 10 mg/mL in H_2O
40045	Hoechst 33258, pentahydrate
40046	Hoechst 33342, 10 mg/mL in H_2O
40047	Hoechst 33342, trihydrochloride trihydrate
40083	NucSpot® 470
40081	NucSpot® Live 488
40082	NucSpot® Live 650
40085	NucSpot® Far-Red
40060	RedDot™1 Far-Red Nuclear Stain
40061	RedDot™2 Far-Red Nuclear Stain
40084	7-AAD Solution, 1 mg/mL
40048	Propidium Iodide Buffer, 50 ug/mL
30068	ViaFluor® 405 SE Cell Proliferation Kit
30086	ViaFluor® 488 SE Cell Proliferation Kit
70065	LipidSpot™ 488 Lipid Droplet Stain
70069	LipidSpot™ 610 Lipid Droplet Stain
70066	LysoView™ 405 Lysosome Stain
70067	LysoView™ 488 Lysosome Stain
70061	LysoView™ 540 Lysosome Stain
70058	LysoView™ 633 Lysosome Stain
70059	LysoView™ 650 Lysosome Stain
70070	MitoView™ 405 Mitochondrial Stain
70054	MitoView™ Green Mitochondrial Stain
70055	MitoView™ 633 Mitochondrial Stain
70075	MitoView™ 650 Mitochondrial Stain
70068	MitoView™ 720 Mitochondrial Stain
70064	ViaFluor® 405 Live Cell Microtubule Stain
70062	ViaFluor® 488 Live Cell Microtubule Stain
70063	ViaFluor® 647 Live Cell Microtubule Stain
30090	CellBrite™ Fix 488 Membrane Stain
30088	CellBrite™ Fix 555 Membrane Stain
30089	CellBrite™ Fix 640 Membrane Stain
30092-30099	MemBrite™ Fix Cell Surface Staining Kits
22023	Paraformaldehyde, 4% in PBS, Ready-to-Use Fixative
22020	10X Phosphate-Buffered Saline (PBS)

Please visit our website at www.biotium.com for information on our life science research products, including novel live cell stains for nuclei, mitochondria, and other organelles, fluorescent CF® dye antibody conjugates and reactive dyes, apoptosis reagents, fluorescent probes, and kits for cell biology research.