Datasheet: 1351303

Description:	PUREBLU™ DAPI
Name:	PUREBLU™ DAPI
Format:	Reagent
Product Type:	Accessory Reagent
Quantity:	250 µg

Product Details

Applications

This product has been reported to work in the following applications. This information is derived from testing within our laboratories, peer-reviewed publications or personal communications from the originators. Please refer to references indicated for further information. For general protocol recommendations, please visit www.bio-rad-antibodies.com/protocols.

	Yes	No	Not Determined	Suggested Dilution
Flow Cytometry	▪			1/100
Immunofluorescence	▪			1/100

Where this product has not been tested for use in a particular technique this does not necessarily exclude its use in such procedures. Suggested working dilutions are given as a guide only. It is recommended that the user titrates the product for use in their own system using appropriate negative/positive controls.

Reconstitution

Reconstitute one vial of lyophilized PureBlu DAPI Dye with 500 µl of de-ionized water, then vortex briefly to make a 100x stock solution.

Product Information

DAPI is a cell permeable fluorescent compound (MW 350.3) that is able to stain the DNA of eukaryotic and prokaryotic cells by binding with high affinity to the minor groove of AT-rich DNA sequences. When DAPI is bound to DNA and excited by an ultraviolet light source, blue fluorescent emission can be detected with maximum emission at 461 nm. PureBlu DAPI has a characteristic Stokes shift of approximately 100 nm, which makes this dye an optimal choice when good spectral separation is desired. PureBlu DAPI is compatible with fixed and unfixed cells.

Reagents In The Kit

5 vials, 50 µg each, DAPI nuclear staining dye powder

Instructions For Use

Note: The optimal concentration for different cell types should be determined empirically.

Staining Procedure - Flow Cytometry Cell Viability

1. Grow cells of interest under conditions specific for the cell type. Harvest cells and obtain a single cell suspension.

2. Check cell numbers and viability using trypan blue.

3. Resuspend cells at 2 x 10^6 cells/ml in 0.5ml Staining Buffer (BUF073) or 1x PBS.

4. Add 5µl of 100x PureBlu DAPI Dye stock solution to 0.5ml cells.

5. Stain at room temperature for 15 min in the dark.

6. Optional: Rinse cells with Staining Buffer (BUF073) or 1x PBS.

7. Proceed with analysis by flow cytometry. When bound to double-stranded DNA (dsDNA) PureBlu DAPI Dye can be excited with either a 355 nm or a 405 nm laser, with optimum emission at 461nm.

Staining Procedure - Flow Cytometry Cell DNA Content

1. Grow cells of interest under conditions specific for the cell type. Harvest cells and obtain a single cell suspension.

2. Check cell numbers and viability using trypan blue.

3. Wash cells in Staining Buffer (BUF073) or 1x PBS.

4. Fix in ice cold 70% ethanol for 2 hr at 4°C.

5. Wash cells in Staining Buffer (BUF073) or 1x PBS.

6. Stain cells with 5µl of PureBlu DAPI Dye stock solution to 0.5 ml cells at a concentration of 2 x 10^6 cells/ml in cell staining buffer containing 0.1% Triton X-100.

Note: Optimal concentrations of cells and PureBlu DAPI may vary depending on cell type and should be determined through careful titration prior to final experimental analysis.

7. Stain at room temperature for 30 min in the dark.

8. Optional: Rinse cells with Staining Buffer (BUF073) or 1x PBS.

9. Proceed with analysis by flow cytometry. When bound to double-stranded DNA (dsDNA) PureBlu DAPI Dye can be excited with either a 355 nm or a 405 nm laser, with optimum emission at 461nm.

Staining Procedure - Cell Nuclear Visualization in Microscopy and Cell Imaging

Preparation of the 1x staining solution: Dilute the 100x stock solution 1/100 with PBS for a final concentration of 1 µg/ml.

1. Grow cells of interest under conditions specific for the cell type.

2. Rinse cells with 1x PBS.

3. Optional: Rinse cells with 1x PBS and permeabilize them with 1x PBST (0.1% Triton X-100 in 1x PBS) at room temperature for 5 min.

5. Rinse cells with 1x PBS.

6. Stain with 1x staining solution (diluted with PBS) at room temperature for 15 min.

7. Rinse cells with 1x PBS.

8. Optional: Remove PBS and mount cells in antifade mounting media.

9. Image cells.

References

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12. Itai, T. *et al.* (2023) A novel NONO variant that causes developmental delay and cardiac phenotypes Sci Rep. 13 (1): 975.
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15. Watanabe, T. *et al.* (2024) Senotherapeutic effect of Agrimona pilosa Ledeb. In targeting senescent cells in naturally aged mice Food Bioscience. : 103903.

Storage	Prior to reconstitution store at - 20°C After reconstitution store at +4°C or at -20°C if preferred This product is photosensitive and should be protected from light. PureBlu DAPI Dye is stable for 12 months from date of reconstitution if stored at - 20°C or 6 months at 2-8°C.
Guarantee	Guaranteed until date of expiry. Please see product label.
Acknowledgements	Triton is a trademark of Dow Chemical Company
Health And Safety Information	Material Safety Datasheet documentation #1351303 available at: https://www.bio-rad-antibodies.com/SDS/1351303 1351303
Regulatory	For research purposes only

Related Products

Recommended Useful Reagents

STAINING BUFFER (BUF073)

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To find a batch/lot specific datasheet for this product, please use our online search tool at: bio-rad-antibodies.com/datasheets
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