DAPI Staining Solution

Order no. 130-111-570

Contents

1. Description

This product is for research use only.

Components	1 mL DAPI Staining Solution:
Capacity	For 10^8 total cells, up to 100 tests.
Product format	The ready-to-use DAPI Staining Solution is supplied in distilled water at a concentration of 10 µg/mL.
Storage	Store protected from light at 2–8 °C. Do not freeze. The expiration date is indicated on the vial label.

1.1 Background information

The 4',6-diamino-2-phenylindole, dihydrochloride (DAPI) is a fluorescent nucleic acid stain that binds to minor grove A-T rich regions of double-stranded DNA. It is essentially excluded from viable cells, but can penetrate cell membranes of dead or dying cells. However, at high concentrations or prolonged incubation times DAPI may still enter viable cells.
Therefore, DAPI is used for evaluation of cell death and apoptosis of unfixed cells in flow cytometry. Additionally, DAPI may be used as a nuclear counterstain of fixed cells in imaging or flow cytometry or for determination of DNA content in cell cycle analysis.
The fluorescence emission for DNA-bound DAPI increases about 20-fold, with an emisssion maximum of 460 nm. DAPI binds also RNA with an emission maximum of 500 nm and lower emission intensity. With an excitation maximum of 358 nm DNA-bound DAPI can be excited by an ultraviolet (UV) laser or a violet (405 nm) laser and detected within the blue fluorescence channel, e.g., channel V1 on the MACSQuant® Analyzer 10.

1.2 Applications

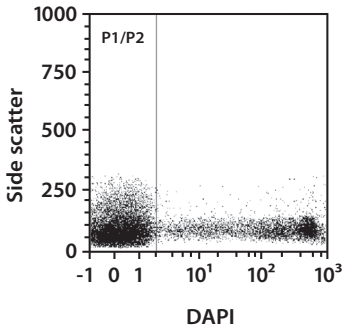
- Exclusion of dead cells from flow cytometric analysis.
- Nuclear counterstain in imaging and flow cytometry.
- Cell cycle analysis.

1.3 Recommended dilution

It is recommended to use DAPI Staining Solution at a final concentration of 0.1 µg/mL. Since application vary, each investigator should titrate the reagent to obtain optimal results.
For dead cell exclusion add 10 µL of DAPI Staining Solution to 10^6 cells in 1 mL buffer and proceed directly to flow cytometric analysis.

2. Example of cell staining with the DAPI Staining Solution

10^6 human peripheral blood mononuclear cells (PBMCs) , 8 days old, were stained with the DAPI Staining Solution and directly analyzed by flow cytometry using the MACSQuant Analyzer 10. Cell debris was excluded from the analysis based on scatter signals. Dead cells are positive for DAPI and thus can be excluded from analysis. Viable cells belong to the P2 population.



Refer to **www.miltenyibiotec.com** for all data sheets and protocols. Miltenyi Biotec provides technical support worldwide. Visit www.miltenyibiotec.com/local to find your nearest Miltenyi Biotec contact.

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