Miltenyi Biotec

DRAQ5™ Staining Solution

50 µL	130-117-344
200 µL	130-117-343

Contents

1. Description
   - 1.1 Background information
   - 1.2 Applications
   - 1.3 Recommended dilution
2. Examples of cell staining with the DRAQ5™ Staining Solution
3. References

1. Description

This product is for research use only.

Components	**50 µL DRAQ5™ Staining Solution**
	or
	200 µL DRAQ5™ Staining Solution
Capacity	50 µL for 2.5×10^7 total cells, up to 50 tests
	or
	200 µL for 1×10^8 total cells, up to 200 tests
Product format	The ready-to-use DRAQ5 Staining Solution is supplied as aqueous solution at a concentration of 5 mM.
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

DRAQ5 is a far-red cell permeable DNA stain which intercalates double-stranded DNA (dsDNA) of living or fixed cells stoichiometrically.
The fluorescence emission maximum for dsDNA-bound DRAQ5 is 697 nm. With a broad excitation band with maxima at 600 and 646 nm it can be excited efficiently by red (635 nm) and yellow (561 nm) lasers, and suboptimally by blue (488 nm) lasers.

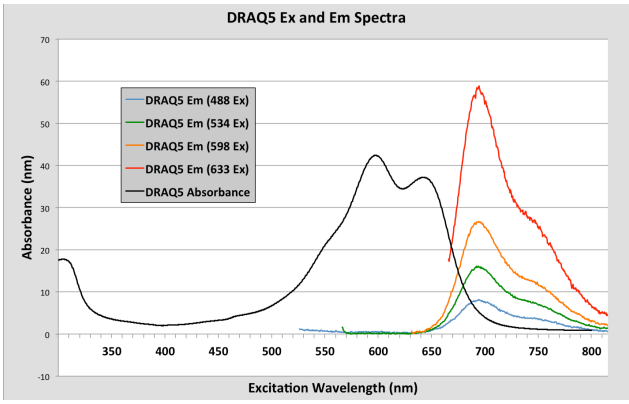

Figure 1: Spectral profile of DRAQ5 Staining Solution.

1.2 Applications

- Enumeration of nucleated cells.
- Nuclear counterstain in imaging and flow cytometry.
- Cell cycle analysis.
- DNA content analysis.

1.3 Recommended dilution

It is recommended to use DRAQ5 Staining Solution at a final concentration of 5–20 µM (1:1000 to 1:250 dilution). Since applications vary, each investigator should titrate the reagent to obtain optimal results. Incubation times may vary typically between 5–30 minutes at temperatures between room temperature and 37 °C.
For nucleated cell enumeration add 1 µL of DRAQ5 Staining Solution to 5×10^5 cells in 1 mL buffer and incubate for 15 minutes at room temperature in the dark before analysis.

2. Examples of cell staining with the DRAQ5 Staining Solution

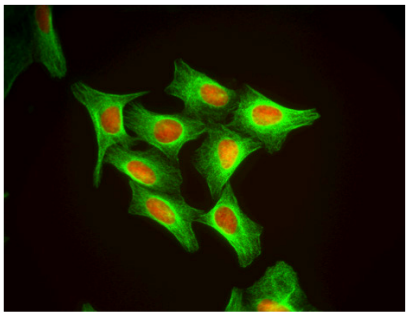

Figure 2: DRAQ5 (red) counterstaining of fixed U2OS cells. AlexaFluor 488 antibody to β-tubulin (green).

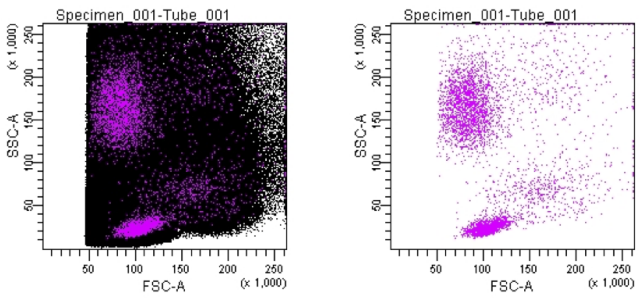

Figure 3: No lyse, no wash gating of nucleated cells from whole bone marrow gating on DRAQ5 signal (purple).

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140-005-383.02

3. References

1. Smith, P. J. *et al.* (1999) A novel cell permeant and far red-fluorescing DNA probe, DRAQ5, for blood cell discrimination by flow cytometry. J. Immunol. Methods 229: 131–139.
2. Smith, P. J. *et al.* (2000) Characteristics of a novel deep red/infrared fluorescent cell-permeant DNA probe, DRAQ5, in intact human cells analyzed by flow cytometry, confocal and multiphoton microscopy. Cytometry 40: 280–291.
3. Smith, P. J. *et al.* (2004) DRAQ5 labeling of nuclear DNA in live and fixed cells. Curr. Protoc. Cytom. 7: 25.
4. Martin, R. M. *et al.* (2005) DNA labeling in living cells. Cytometry 67A: 45–52.

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