abcam

Product datasheet

DRAQ7™ ab109202

★★★★★ **1 Abreviews**   **29 References**   **3 Images**

Overview

Product name	DRAQ7™
Tested applications	**Suitable for:** FM, Flow Cyt, ICC/IF
General notes	DRAQ7™ is a far-red fluorescent dye that *only* stains the nuclei in **dead** and permeabilized cells and can be used in combination with common labels such as GFP or FITC.

DRAQ7 is the ideal tool to study dead or membrane-compromised cells because it does not enter intact, live cells. It is an ideal replacement for propidium iodide and 7-AAD, as is not excited by UV light and has no emission overlap with PE / PE homologues.

Key features of DRAQ7 include:

Rapid staining of dsDNA/ nuclei of dead or permeabilized cells
Low photobleaching
It can be used in most cell types, eukaryotic and prokaryotic: mammalian, bacterial, parasitic, plant, etc ...
Non-toxic in long-term culture
Can be combined with "live" dyes
No compensation needed with common FITC/GFP + PE combinations in flow cytometry
No wash or RNase treatment needed.
SPECTRAL PROPERTIES

Excitation:

633 and 647 nm line optimal (Ex$_{max}$ 599 / 644 nm)

488, 514 and 568 nm lines, sub-optimal (only by flow cytometry)
Emission (instrument dependent):

665 nm to infra-red max 678 nm / 697 nm intercalated with dsDNA)
Minimal overlap with vis range e.g. GFP and FITC
Em. filters may include 695L, 715LP or 780 LP
Multi-wavelength imaging with UV / vis fluorochromes

No fluorescence enhancement upon DNA binding
Low photo-bleaching effect
Compatible with optics of flow, laser scanning cytometers and confocal and lamp-based fluoroscence microscopes

Properties

Form	Liquid

| Storage instructions | Store at +4°C. Do Not Freeze. Store In the Dark. |

Applications

The Abpromise guarantee   Our **Abpromise guarantee** covers the use of ab109202 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
FM		Use at an assay dependent concentration.
Flow Cyt		1/100. (final concentration = 3µM)
ICC/IF		1/100. (final concentration = 3µM) It is highly recommended that the concentration and labelling conditions are carefully determined by each investigator for optimal performance in the assay of interest. For more specific information about the applications, please refer to the Protocol Booklet.

Images

Flow Cytometry - DRAQ7™ (ab109202)
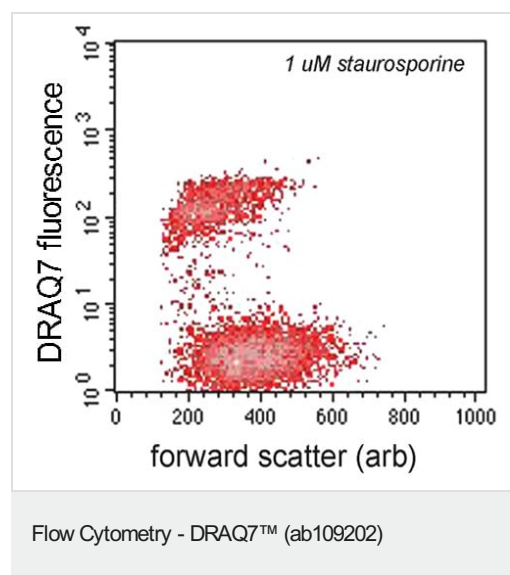
Jurkat cells exposed to 1µM staurosporine for 24 hours show DRAQ7™ staining (top half of the plot). These cells have compromised membranes that allow entry of DRAQ7™ in the cells.
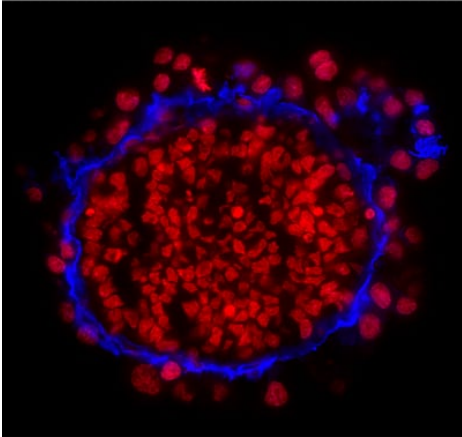
Immunohistochemistry (Frozen sections) -
DRAQ7™ (ab109202)

Courtesy of Dr. Shaohua Li, UMDNJ-Robert Wood
Johnson Medical School

Sample: mouse embryonic stem cell-differentiated embryoid bodies (EBs)

Preparation:

Fix in 3%PFA in PBS for 30 min at RT

Incubate in 7.5% sucrose-PBS for 3h at RT

Incubate in 15% sucrose-PBS at 4 degree Celsius overnight
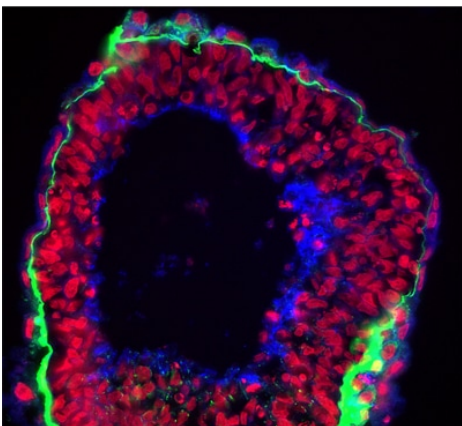
Embed the EBs in tissue-Tek OCT compound

Cut frozen sections to 4-20 µm thickness

Primary antibody: Rabbit anti-laminin alpha 1, 1:400
Secondary antibody: Goat anti-rabbit IgG - H&L (AMCA) (**ab123435**)
Nuclei were counterstained stained with DRAQ7™ (ab109202)

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Primary antibody: Rabbit anti-laminin alpha 1, 1:400

Secondary antibody: Goat polyclonal Secondary Antibody to Rabbit

IgG - H&L (FITC) (**ab97050**), 1:200

F-actin was stained with CytoPainter F-actin staining kit (blue)

(**ab112124**), 1:1000

Nuclei were counterstained stained with DRAQ7™, 1:1000

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