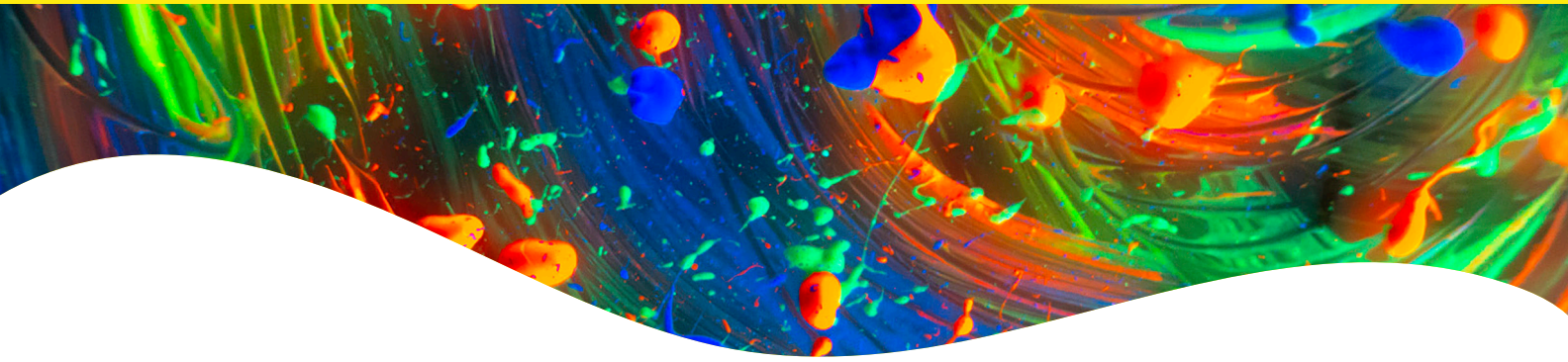
PhenoVue DRAQ7, Dead Cell Nuclear Stain



Overview

PhenoVue™ DRAQ7™ Nuclear Stain is a small molecule which is not membrane permeable and is closely related to PhenoVue DRAQ5™. PhenoVue DRAQ7 rapidly stains the double-stranded DNA in dead and permeabilized cells.

It is preferentially excited by red wavelengths (Ex. max 599 & 644 nm) and its maximum emission peaks at 694 nm when intercalated with dsDNA.

PhenoVue DRAQ7 is provided in an aqueous, ready-to-use solution usually added as the final step in a staining protocol. It is documented in HCS applications.

Product information

Product name*	Part no.	Number of vials per unit	Quantity per vial	Format	Shipping conditions
PhenoVue DRAQ7, dead cell nuclear stain, 1 mL	CP171	1	1 mL (0.3 mM – 300 nmol)	Liquid	Ambient

*DRAQ7™ is a trademark of BioStatus Limited.

Storage and stability

- **Do not freeze.**
- Store at 2-8 °C, protected from light.
- The stability of these products is guaranteed until the expiration date indicated on the vial, when stored as recommended and protected from light.
- Allow the reagents to warm up to room temperature for 15 mins before opening the vials, and aliquot.
- Aliquoted reagents must be stored at 2-8 °C.

Equivalent number of microplates

Product name	When used at recommended concentration	96-well microplate (100 µL - 300 µL per well)	384-well microplate (25 µL - 90 µL per well)	1536-well microplate (4 µL - 12 µL per well)
PhenoVue DRAQ7, dead cell nuclear stain, 1 mL	5 µM	Approx. 2 to 6	Approx. 2 to 6	Approx. 3 to 9

View our full range of high-quality imaging microplates at Revvity.com

Spectral and photophysical properties

Product name	Maximum excitation wavelength (nm)	Maximum emission wavelength (nm)	Filter set	Epsilon (ε in $M^{-1}.cm^{-1}$ at λ max)
PhenoVue DRAQ7, dead cell nuclear stain	599/644	694	Cy5	22000

Live- and fixed-cell compatibility

Product name	Live-cell staining	Fixation/permeabilization steps post live-cell staining	Fixed-cell staining
PhenoVue DRAQ7, dead cell nuclear stain	No	No	Yes

Protocols

Cell culture

Seed cells in imaging black wall, clear bottom microplates (or any other convenient cell culture vessels). Incubate in the appropriate cell culture conditions, usually 37 °C, 5% CO_2 until 50-70% confluency.

Staining

Final concentration and incubation time of PhenoVue DRAQ7 must be optimized according to the cell type.

1. Add 2 to 10 µM of PhenoVue DRAQ7 nuclear stain per well.

Note that high concentration of PhenoVue DRAQ7 may result in nonspecific staining of other cellular structures.

2. Incubate for 10 to 60 mins.

3. Acquire images using an imaging system such as the Opera Phenix® Plus high content screening system.

Tips

- When combined with Calcein AM, keep PhenoVue DRAQ7 below 2.0 µM.

Safety information

Chemical reagents are potentially harmful, please refer to the Safety Data Sheet (SDS) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves.

Applications

- High-content analysis/high-content screening
- Imaging microscopy

Example data

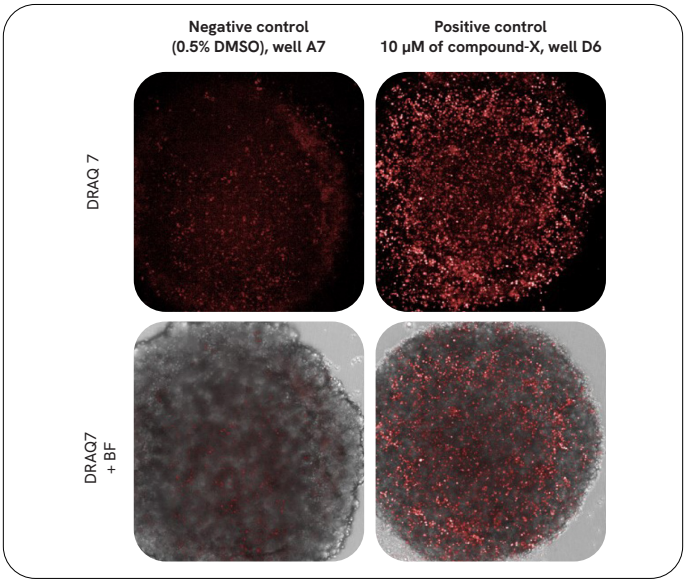


Figure 1: Images of DRAQ7 stained and brightfield of a 3D colorectal immortalized cancer cell line spheroid using the Operetta® CLS™ high-content analysis system.

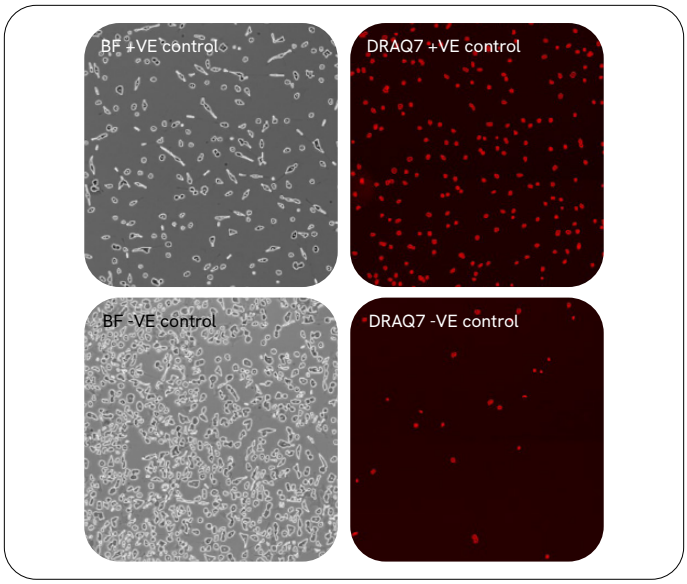


Figure 2: MCF-7 cells treated with negative and positive cytotoxic controls for cell death as recorded by DRAQ7. Imaged with the Celigo S imaging cytometer, showing red channel for DRAQ7 and transmitted light images. Data generated by Revvity, Imagen Therapeutics and BioStatus.

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