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DATASHEET

Oxazole Yellow Iodide

Product overview

Name	Oxazole Yellow Iodide
Cat No	HB6210
Description	Oxazole Yellow iodide is also known as Yo-Pro-1. It is a commonly used apoptosis marker.
Alternative names	Yo-Pro-1, YP1, YP-1
Biological description	**Overview**

Oxazole Yellow iodide is also known as Yo-Pro-1 or YP1. It is a carbocyanine nucleic acid stain which has a strong binding affinity to nucleic acids.

It is a green fluorescent DNA marker which is commonly used to identify apoptotic cells.

Uses and applications

Oxazole Yellow (YP1) does not penetrate the plasma membrane of viable cells. However, during apoptosis, apoptotic processes cause the cell-membrane to become slightly permeable. This allows Oxazole Yellow (YP1) to enter these cells and bind to nucleic acids to allow detection of apoptotic cells.

It is frequently used with propidium iodide when staining for apoptotic and necrotic cells as apoptotic cells remain impermeant to propidium iodide but permeable to Oxazole Yellow (YP1).

Biological action	Dyes & stains
Purity	>99%

Images

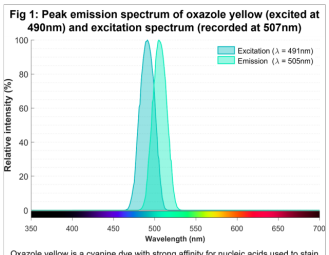


Fig 1: Peak emission spectrum of oxazole yellow (excited at 490nm) and excitation spectrum (recorded at 507nm)

Oxazole yellow is a cyanine dye with strong affinity for nucleic acids used to stain apoptotic cells. Oxazole yellow from Hello Bio has an excitation peak at 491nm (when recorded at 507nm) and peak emission at 505nm (when excited at 490nm). *For protocol see #Protocol 1 in application notes below.*

Biological Data

Application notes	Oxazole yellow is a cyanine dye with strong affinity for nucleic acids used to stain apoptotic cells. Oxazole yellow from Hello Bio has an excitation peak at 491nm (when recorded at 507nm) and peak emission at 505nm (when excited at 490nm). For protocol see #Protocol 1 in application notes below.

#Protocol 1: Measurement of excitation and emission spectra of Oxazole Yellow

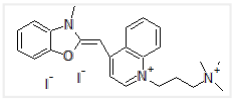
- Oxazole yellow was prepared at 1pM in H_20 with 33µg/ml empty plasmid DNA giving an approximate ratio of 1 dye molecule per 50bp of DNA.

- Excitation and emission spectra were measured between 350nm and 700nm using a Tecan Infinite M200 PRO ELISA plate reader.
- Excitation assessed using the emission wavelength of 507nm and emission was assessed using the excitation wavelength of 490nm.

Solubility & Handling

Storage instructions	-20°C (protect from light)
Solubility overview	Soluble in water (1 mg/ml), and in DMSO (1 mg/ml)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

Chemical Data

Chemical name	4-[(3-Methyl-2(3H)-benzoxazolylidene)methyl]-1-[3-(trimethylammonio)propyl]-quinolinium diiodide
Molecular Weight	629.32
Chemical structure	
Molecular Formula	$C_{24}H_{29}I_2N_3O$
CAS Number	152068-09-2
PubChem identifier	6439500
SMILES	CN\1C2=CC=CC=C2O/C1=C\C3=CC=[N+](C4=CC=CC=C34)CCC[N+](C)(C)C.[I-].[I-]
Source	Synthetic
InChiKey	ULHRKLSNHXXJLO-UHFFFAOYSA-L
Appearance	Yellow solid

References

Application of the novel nucleic acid dyes YOYO-1, YO-PRO-1, and PicoGreen for flow cytometric analysis of marine prokaryotes

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Evaluation of YO-PRO-1 as an early marker of apoptosis following radiofrequency ablation of colon cancer liver metastases

Fujisawa S *et al* (2014) Cytotechnology 66(2)
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Evaluation of a continuous quantification method of apoptosis and necrosis in tissue cultures

Gawlitta D *et al* (2004) Cytotechnology 46(2-3)
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