Product Data Sheet

Product Name:	Hoechst 33342 analog 2
Cat. No.:	GC36245

Chemical Properties

Cas. No.	106050-84-4		
SMILES	OC1=CC=C(C2=NC3=CC(C4=NC5=CC(N6CCN(C)CC6)=CC=C5N4)=CC=C3N2)C=C1I		
Formula	$C_{25}H_{23}IN_6O$	M.Wt	550.39
Solubility	DMSO: ≥ 57 mg/mL (103.56 mM)	Storage	4°C, protect from light
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Hoechst 33342 analog 2		

Protocol

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1□□□Hoechst□□□

(1) □□Hoechst□□□□□: □□DMSO□□□□□□□□□□10mg/mL□Hoechst□□□□□□

□□: Hoechst□□□□□□□□□-4℃□-20℃□□□□□□□□□□□□

(2)□□□□□:□□□□□□□□□□□□□□□(□HBSS□PBS)□□□□□□□□□□□10μg/mL□Hoechst□□□□

□□: □□□□□□□□□ Hoechst □□□□□□□□□□□

2□□□□□

2.1 □□□□□□6□□□□□

(1)□□□□□1000g□□3-5min□□□□□□□□□PBS□□□□□□□5□□□

(2)□□1mL□Hoechst□□□□□□□□□□□□5-10 min□□□

(3)□□□□□□□1000g□□5□□□□□□□□□□□PBS□□2-3□□□5□□□

(4)□□□□□□□□□□□PBS□□□□□□□□□□□□□□□□□□□□□□□□

2.2 □□□□

(1)□□□□□□□□□□□□□□

(2)□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

(3)□□□□□□□□□100uL□Hoechst□□□□□□□□□□□□□□□□□□□□□□□□□□□□5-15min□□□

(4)□□□□□□□□□□□□□□□□□2~3□□□□□□□□□□□□□□

3.□□□□□□Hoechst 33342□□□/□□□□□□350/460nm□

□□□□□

①[illegible]

②Hoechst 33342[illegible]Hoechst 33342[illegible]

③[illegible]

④[illegible]

Hoechst 33342[illegible]

References:

[1]. Lisa C Crowley, Brooke J Marfell , Nigel J Waterhouse. Analyzing Cell Death by Nuclear Staining with Hoechst 33342. 2016 Sep 1;2016(9). doi: 10.1101/pdb.prot087205.

Background

Hoechst 33342 analog 2 is an analog of Hoechst 33342 dye. Hoechst 33342 is a nuclear dye that binds to the grooves in the DNA double strands. Hoechst 33342 dye is also used to differentiate between normal cells, apoptotic cells, and necrotic cells. The nuclei of normal cells are round and uniformly stained, but during mitosis, the nuclei are also condensed, and DNA forms two parallel lines when chromosomes are separated; in apoptotic cells, due to the condensation of DNA, the nuclei are usually fragmented and stained more Strong; the DNA in necrotic cells is not concentrated, and the edges of the nucleus are unclear[1].

Hoechst dyes can also be used to monitor cell viability by tracking changes in their emission spectra. As slightly groove-binding DNA stains with AT selectivity, Hoechst dyes are able to bind to all nucleic acids, but they show greater fluorescence enhancement for AT-rich double-stranded DNA strands compared to GC-rich strands[2]. This property has been used to identify Q bands in chromosomes, which are AT base pair-rich regions that fluoresce brightly when stained with quinacrine dye[3].