

Pyronin Y

Chemical Properties

CAS No. : 92-32-0

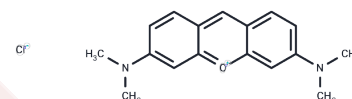
Formula: C₁₇H₁₉ClN₂O

Molecular Weight: 302.8

Keep away from direct sunlight

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Pyronin Y (Pyronine G) is an intercalating cationic dye with specificity for RNA.
Targets(IC50)	Others, Autophagy
In vitro	Pyronin Y forms fluorescent complexes with double-stranded nucleic acids, especially RNA, enabling semi-quantitative analysis of cellular RNA in flow cytometry, to estimate the RNA content per cell in formalin fixed EL4 leukosis tumor cells. The technique has been used to stain RNA in human reticulocytes for subsequent flow analysis and sorting [2]. In viable cells this dye also accumulates in mitochondria. At a concentration of 1.7 to 3.3 μM, pyronin Y is localized almost exclusively in mitochondria of cultured cells, similar to another mitochondria! probe, rhodamine 123. At that concentration PY is not toxic but suppressed cell growth, arresting cells[3].
Cell Research	<p>Instructions:</p> <p>a. Solution preparation:</p> <ol style="list-style-type: none"> Mother solution preparation: Prepare a certain concentration of Pyronin Y mother solution, store it at -20°C or -80°C away from light after aliquoting. Working solution preparation: Select the appropriate working solution concentration according to the experimental requirements, such as diluting it into a working solution with a concentration of 1 μg/μL, and try to prepare it for immediate use. <p>b. Operation steps</p> <ol style="list-style-type: none"> Cell preparation: <p>Suspended cells: Collect cells by centrifugation, add PBS and wash twice, 5 minutes each time.</p> <p>Adherent cells: Digest, centrifuge and collect cells, add 1 mL PBS, mix thoroughly and centrifuge again, add 300 μL PBS to resuspend cells. The cell density is controlled at 1×10⁶ cells.</p> Add 1 μL Pyronin Y (1 μg/μL) and place on ice away from light for 20 minutes. Perform flow cytometry analysis on the machine. <p>The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.</p>

Solubility Information

Solubility	DMSO: 25 mg/mL (82.56 mM), Sonication is recommended. H2O: 4 mg/mL (13.21 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.3025 mL	16.5125 mL	33.0251 mL
5 mM	0.6605 mL	3.3025 mL	6.605 mL
10 mM	0.3303 mL	1.6513 mL	3.3025 mL
50 mM	0.0661 mL	0.3303 mL	0.6605 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Ming W, et al. The synergy of between IFN β and BMP signaling in regulating the proliferation and quiescence of human neural stem cells[D]. 2020.

Tanke HJ, et al. Flow cytometry of human reticulocytes based on RNA fluorescence. Cytometry. 1981 Mar;1(5):313-20.

Darzynkiewicz Z, et al. Cytostatic and cytotoxic properties of pyronin Y: relation to mitochondrial localization of the dye and its interaction with RNA. Cancer Res. 1986 Nov;46(11):5760-6.

Li B, et al. Pyronin Y as a fluorescent stain for paraffin sections. Histochem J. 2002 Jun-Jul;34(6-7):299-303.

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