Diphenyl Blue

Cat. No.: HY-D0970

CAS No.: 72-57-1

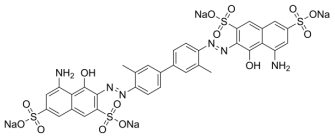
Molecular Formula: $C_{34}H_{24}N_6Na_4O_{14}S_4$

Molecular Weight: 960.81

Target: Fluorescent Dye

Pathway: Others

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 25 mg/mL (26.02 mM; Need ultrasonic)
H_2O : 1 mg/mL (1.04 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.0408 mL	5.2039 mL	10.4079 mL
	5 mM	0.2082 mL	1.0408 mL	2.0816 mL
	10 mM	0.1041 mL	0.5204 mL	1.0408 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Diphenyl Blue (Trypan Blue) is a cell active dye, the most commonly used dye for the identification of dead cells, of en used to test cell membrane integrity and cell viability. Diphenyl Blue staining is one of the methods for tissue and cell culture. When cells are deactivated or have incomplete cell membranes, Diphenyl Blue can stain them Blue. Normal living cells with intact cell membranes reject Diphenyl blue and do not stain them blue. However, macrophages are capable of phagocytosis of Diphenyl Blue, so it can be used as a living stain for macrophages[1].

In Vitro

Preparation of Trypan Blue working solution
1.1 Preparation of the stock solution
Dissolve 10 mg of Trypan Blue in 100 mL 0.85% Nacl to obtain 0.4% Trypan Blue.
Note: It is recommended to store the stock solution at -20℃ -80℃ away from light and avoid repetitive freeze-thaw cycles.
1.2 Preparation of Trypan Blue working solution
Dilute the stock solution in 0.85% Nacl to obtain 0.04% of Trypan Blue working solution.
Note: Please adjust the concentration of Trypan Blue working solution according to the actual situation.
Cell staining
2.1 For suspension cells, centrifuge at 1000 g at 4℃ for 3-5 minutes and then discard the supernatant. Wash twice with PBS, 5

	minutes each time. For adherent cells, discard the cell culture medium, and add trypsin to dissociate cells to make a single-cell suspension. Centrifuge at 1000 g at 4℃ for 3-5 minutes and then discard the supernatant. Wash twice with PBS, 5 minutes each time. 2.2 Add 1 mL of rypan Blue working solution, and then incubate at room temperature for 5 minutes. 2.3 Centrifuge at 400 g at 4℃ for 3-4 minutes and then discard the supernatant. 2.4 Wash twice with PBS, 5 minutes each time. 2.5 Resuspend cells with serum-free cell culture medium or PBS, and then detect by fluorescence microscope. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell Death Dis. 2023 Aug 29;14(8):573.
- Photochem Photobiol. 2023 May 22.

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REFERENCES

[1]. Daly, M. L., DeRosa, C. A., Kerr, C., Morris, W. A., & Fraser, C. L. (2016). Blue thermally activated delayed fluorescence from a biphenyl difluoroboron β-diketonate. RSC Advances, 6(85), 81631–81635. doi:10.1039/c6ra18374c

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