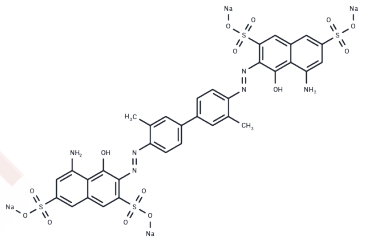
Data Sheet (Cat.No.T18979)

TargetMol

Diphenyl Blue

Chemical Properties



CAS No. : 72-57-1

Formula: C34H24N6Na4O14S4

Molecular Weight: 960.81

Storage: Keep away from direct sunlight
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	Diphenyl Blue (Direct Blue 14) (Direct Blue 14) is used as a dye for a group of azo dye.
Targets(IC50)	Others
Cell Research	I. Analysis and standardization of azo dyes 1. Dye calibration: Dissolve Diphenyl Blue in an appropriate solvent (such as water or an organic solvent) and use it as a standard solution. Compare it with other azo dyes to be tested. 2. Staining experiment: Use Diphenyl Blue to perform staining experiments and compare its color changes under different conditions (such as different pH, temperature or solvent environments). 3. Performance test: Use a colorimeter or spectrophotometer to test the absorbance and other optical properties of the dye to evaluate its staining performance. II. Dye stability and reactivity study 1. Stability test: Store Diphenyl Blue solution under different temperature, pH or light conditions, measure its color changes regularly, and evaluate the stability of the dye. 2. Reactivity study: React with other chemical substances (such as metal ions, acid-base substances, etc.) to test the chemical reactivity of Diphenyl Blue. III. Cell staining 1. Solution preparation: Prepare 0.4% trypan blue with 0.85% Nacl. For example, 400 mg of trypan blue is dissolved in 100 mL of 0.85% Nacl. 2. Cell staining: Add Diphenyl Blue solution to the cell culture medium and incubate for a certain period of time (usually 30 minutes to 1 hour) to stain the cells. 3. Microscopic observation: Use a microscope to observe the staining effect, and measure the absorbance with a spectrophotometer to further analyze the intensity of the staining. IV. Quantitative analysis of dye behavior: 1. Solubility test: Dissolve different concentrations of Diphenyl Blue in various solvents, measure its solubility and observe the color change of the solution. 2. Absorbance measurement: Use a spectrophotometer to measure the absorbance of the solution at different wavelengths, draw an absorption spectrum, and analyze the optical properties of the dye.

Cell Research	The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	H2O: 10 mg/mL (10.41 mM),Sonication is recommended. DMSO: 8 mg/mL (8.33 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
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
50 mM	0.0208 mL	0.1041 mL	0.2082 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

Tienda-Vazquez MA,et al. Biological testing unification for hemodialysis membranes evaluation: A step towards standardization. Biomater Adv. 2025 Apr;169:214165.

Gao P, Sun C.Fast and efficient molecule delivery into Euglena gracilis mediated by cell-penetrating peptide or dimethyl sulfoxide.FEBS Open bio.2023

Khalil HF,et al. Tissue-friendly dentin treatments as a potential element in revascularization protocol (ex-vivo study). BMC Oral Health. 2025 Feb 3;25(1):184.

Putri ANK, et al. Preosteoblast Adhesion and Viability Study of Freeze-Dried Bovine Bone Block Scaffold Coated with Human Umbilical Cord Mesenchymal Stem Cell Secretome. Eur J Dent. 2025 Feb;19(1):197-205.

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