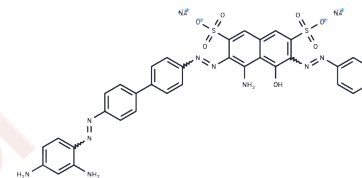


Direct Black 38

Chemical Properties

CAS No. :	1937-37-7
Formula:	C34H25N9Na2O7S2
Molecular Weight:	781.73
Storage:	Keep away from direct sunlight Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	Direct Black 38 (Chlorazol Black E) is a black azo dye that absorbs various colors of light and is commonly used in the textile industry. Direct Black 38 is genotoxic and induces unplanned DNA synthesis in rat liver and bone marrow micronuclei.
Targets(IC50)	E1/E2/E3 Enzyme, DNA/RNA Synthesis
Cell Research	<p>Instructions</p> <p>I. Solution preparation</p> <p>1. Recommended concentration: 1-5% (mass/volume). Dissolve in deionized water and dilute as needed.</p> <p>Storage conditions: The stock solution is stable under refrigerated conditions at 4°C. Avoid prolonged exposure to strong light or high temperatures to prevent degradation.</p> <p>II. Operation steps</p> <p>1. Textile dyeing</p> <p>1). Prepare the dye bath: Heat the dye solution in the range of 60-90°C and maintain uniform mixing. Adjust the dye concentration according to the material and the expected color depth.</p> <p>2) Immerse the material in the dye bath, usually for 30-60 minutes.</p> <p>3) Fix and wash: Use an appropriate amount of salt or alkaline substances (such as sodium carbonate) as an auxiliary agent to enhance binding.</p> <p>4) Wash after dyeing to remove excess dye.</p> <p>2. Biological experiments</p> <p>1) Cell or tissue staining: Dilute the stock solution (working concentration is 0.1-1%).</p> <p>2) Directly apply or immerse in the sample, the staining time can be optimized to 5-30 minutes.</p> <p>3) After staining, rinse with appropriate buffer (such as PBS) to remove unbound dye.</p> <p>4) Microscope observation: Usually observed under bright field microscope, choose appropriate light source and filter to improve contrast.</p> <p>The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.</p>

Solubility Information

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Solubility	DMSO: 20 mg/mL (25.58 mM),Sonication is recommended. H2O: 2 mg/mL (2.56 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 2 mg/mL (2.56 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.2792 mL	6.3961 mL	12.7921 mL
5 mM	0.2558 mL	1.2792 mL	2.5584 mL
10 mM	0.1279 mL	0.6396 mL	1.2792 mL
50 mM	0.0256 mL	0.1279 mL	0.2558 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

Beije B. Induction of unscheduled DNA synthesis in liver and micronucleus in bone marrow of rats exposed in vivo to the benzidine-derived azo dye, Direct Black 38. *Mutat Res.* 1987 Apr;187(4):227-34.

Byrne SL, et al. Ferristatin II promotes degradation of transferrin receptor-1 in vitro and in vivo. *PLoS One.* 2013 Jul 23;8(7):e70199.

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Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481