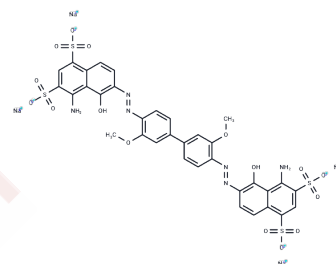


## Direct Blue 1

## Chemical Properties

CAS No. :	2610-05-1
Formula:	C <sub>34</sub> H <sub>24</sub> N <sub>6</sub> Na <sub>4</sub> O <sub>16</sub> S <sub>4</sub>
Molecular Weight:	992.8
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 Blue 1 (Pontamine sky blue), a counterstain for background autofluorescence in immunofluorescence histochemistry, structurally resembles glutamate and operates as a potent, competitive VGLUT inhibitor, not impacting plasma membrane transporters. This compound stands out as the inaugural small molecule PrP ligand to inhibit A $\beta$ binding.
Targets(IC50)	Beta Amyloid, NF- $\kappa$ B, GluR
In vitro	<p>Instructions</p> <p>I. Dissolve and prepare dye solution</p> <ol style="list-style-type: none"> <li>1. Solution preparation: Dissolve Direct Blue 1 in water. Common dye concentrations range from 0.1% to 1% (w/v). The specific concentration is adjusted according to experimental needs. For example, when the dye solution concentration is 0.5%, 5 mg of dye is usually mixed with 1 mL of solvent.</li> <li>2. Staining process: <ol style="list-style-type: none"> <li>1) Prepare samples: Prepare samples to be stained (such as textiles, proteins, cells, etc.) according to the type of experiment.</li> <li>2) Staining solution: Add the prepared Direct Blue 1 solution to the sample. The staining time is usually 20 to 60 minutes, depending on the staining intensity requirements.</li> <li>3) pH value: During staining, the pH value of the dye solution usually needs to be kept at acidic or neutral (pH 4-7). If the sample is sensitive to pH, precise pH control may be required.</li> <li>4) Washing: After staining, wash with water or an appropriate buffer to remove unbound dye until the sample no longer releases dye.</li> </ol> </li> </ol> <p>II. Applications</p> <ol style="list-style-type: none"> <li>1. Protein or DNA staining: Direct Blue 1 can be used for staining in gel electrophoresis, especially for staining proteins and other biomacromolecules.</li> <li>2. Cell staining: In cell biology experiments, Direct Blue 1 is often used for cell staining to facilitate observation of cell morphology or counting under a microscope.</li> <li>3. Surface adsorption experiments: Because Direct Blue 1 can strongly adsorb to different surfaces (such as fibers, membranes or cell surfaces), it can also be used for surface adsorption or adsorption experiments.</li> </ol> <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: Slightly soluble, ( $< 1$ mg/ml refers to the product slightly soluble or insoluble)
------------	-----------------------------------------------------------------------------------------------

## Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.0073 mL	5.0363 mL	10.0725 mL
5 mM	0.2015 mL	1.0073 mL	2.0145 mL
10 mM	0.1007 mL	0.5036 mL	1.0073 mL
50 mM	0.0201 mL	0.1007 mL	0.2015 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

Klučáková M. Effect of Chitosan as Active Bio-colloidal Constituent on the Diffusion of Dyes in Agarose Hydrogel. Gels. 2023 May 9;9(5):395.

Ahmed T, et al. Green synthesis of silver nanoparticles transformed synthetic textile dye into less toxic intermediate molecules through LC-MS analysis and treated the actual wastewater. Environ Res. 2020 Dec;191:110142.

Shahid M, et al. Enzymatic detoxification of azo dyes by a multifarious Bacillus sp. strain MR-1/2-bearing plant growth-promoting characteristics. 3 Biotech. 2018 Oct;8(10):425.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

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